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Guide for Spill Prevention Control and Countermeasure Inspectors

Rockwell International
Newbury Park, CA

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Municipal Environmental Research Lab.
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GUIDE FOR SPILL PREVENTION CONTROL AND COUNTERMEASURE INSPECTORS

by

Walter Unterberg
Robert M. Moorehead
Environmental Monitoring & Services Center
Rockwell International Corporation
Newbury Park, California 91320

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Project Officers:

John S. Farlow
Oil & Hazardous Materials Spills Branch
Municipal Environmental Research Laboratory - Cincinnati
U.S. Environmental Protection Agency
Edison, New Jersey 08817

and

Thomas J. Charlton
Division of Oil and Special Materials Control
Office of Water Program Operations
U.S. Environmental Protection Agency
Washington, D.C. 20460

MUNICIPAL ENVIRONMENTAL RESEARCH LABORATORY
OFFICE OF RESEARCH AND DEVELOPMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
CINCINNATI, OHIO 45268

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16. ABSTRACT

This report is intended for use in training and guiding inspectors performing compliance inspections and amendment inspections and documenting these inspections to implement the Oil Pollution Prevention Regulations promulgated in 40CFR112 for nontransportation-related onshore and offshore facilities.

The report covers the SPCC regulations, the role of the SPCC inspector, the affected facilities, and procedures for carrying out the inspection. It contains forms for use by the inspector in the field and for documentation.

The use of these forms will provide nationwide uniformity in SPCC reporting. Suggested procedures appear below in short form, applicable to all inspections:

The SPCC Inspector's 1-2-3

1 - In field fill out "SPCC Inspection Field Sheet" (1 page) (EPA Form 7500-53)

2 - If facility in compliance	If facility NOT in compliance
Fill out "SPCC Inspection Summary Sheet" (1 page) only (EPA Form 7500-52).	Fill out "SPCC Inspection Summary Sheet" (1 page) (EPA Form 7500-52) and "Detailed SPCC Documentation" (7 pages) (EPA Form 7500-54).

3 - Enter information in EPA-SPCC Data Bank:
- Form A - Facility Identification
- Form E - Inspection/Enforcement Report
- Form S - Spill Report (if required)

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Oils Pollution Prevention Countermeasures Inspection	Inspector's Guide Oil Spill Prevention SPCC	

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FOREWORD

The U.S. Environmental Protection Agency was created because of increasing public and government concern about the dangers of pollution to the health and welfare of the American people. Noxious air, foul water, and spoiled land are tragic testimonies to the deterioration of our natural environment. The complexity of that environment and the interplay of its components requires a concentrated and integrated attack on the problem.

Research and development is that necessary first step in problem solution; it involves defining the problem, measuring its impact, and searching for solutions. The Municipal Environmental Research Laboratory develops new and improved technology and systems to prevent, treat, and manage wastewater and solid and hazardous waste pollutant discharges from municipal and community sources, to preserve and treat public drinking water supplies, and to minimize the adverse economic, social, health, and aesthetic effects of pollution.

This publication is one of the products of that research and provides a most vital communications link between the researcher and the user community. It describes the spill prevention, control and countermeasure (SPCC) regulations, the role of the SPCC inspector, the affected facilities, and procedures for carrying out the inspection, and also contains forms needed by the inspector for documentation and in the field. This report will be useful for both training and reference for new SPCC inspectors.

This project is part of the continuing program of the Oil & Hazardous Materials Spills Branch, MERL-Ci, to assess and mitigate the environmental impact of oil pollution.

Francis T. Mayo, Director
Municipal Environmental Research Laboratory
Cincinnati

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The report covers the SPCC regulations, the role of the SPCC inspector, the affected facilities, and procedures for carrying out the inspection. It contains forms for use by the inspector in the field and for documentation.

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3 - Enter information in EPA-SPCC Data Bank:

Form A - Facility Identification

Form E - Inspection/Enforcement Report

Form S - Spill Report (if required)

This report was submitted in partial fulfillment of Task 4 of Contract No. 68-03-2648 by Rockwell International Corporation under the sponsorship of the U.S. Environmental Protection Agency. This report covers the period April 20, 1978, to July 31, 1979, and work was completed as of February 28, 1980.

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SECTION 1

INTRODUCTION

SPCC REGULATIONS

In December 1973, the U.S. Environmental Protection Agency (EPA) issued in the Federal Register its Oil Pollution Prevention Regulations for Nontransportation-Related Onshore and Offshore Facilities (40CFR112). The purpose of these regulations is to prevent spills from nontransportation-related facilities by establishing procedures, methods, and equipment requirements for owners or operators of facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, or consuming oil. These regulations require the owners or operators of designated onshore and offshore facilities to prepare a Spill Prevention Control and Countermeasure Plan (SPCC Plan) in accordance with certain guidelines contained within the regulations. These guidelines require the installation or construction of certain spill prevention systems depending upon the type of operation conducted at the facility. It is the intention of these regulations that these spill prevention systems be designed, installed, and operated according to good engineering practices.

Associated with 40CFR112 are several other environmental regulations as follows (complete texts in Appendix A):

> 40CFR109, Criteria for State, Local, and Regional Oil Removal Contingency Plans — This regulation governs contingency plans which are part of SPCC plans under certain circumstances when conventional spill prevention is not feasible;
>
> 40CFR110, Discharge of Oil — This regulation applies to the discharge of oil into navigable waters, adjoining shorelines, or waters of the contiguous zone;
>
> 40CFR114, Civil Penalties for Violation of Oil Pollution Prevention Regulations — Outlines enforcement procedures, with maximum liability of $5000 for each day a violation continues.

The SPCC inspection program is the mechanism which the EPA uses to determine compliance with SPCC regulations. Compliance inspections enforce 40CFR112.3 by verifying that an SPCC plan exists for a facility falling under 40CFR112, that this plan is technically adequate, and that the provisions of the SPCC plan have actually been carried out in the facility. The legal basis for compliance inspections is contained in 40CFR112.3(b), which states, in part:

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> "Owners or operators of a facility for which an SPCC plan is required ... shall maintain a complete copy of the plan ... and shall make such plan available to the Regional Administrator for on-site review during normal working hours."

When a spill of a certain magnitude has occurred from a facility having an SPCC plan, 40CFR112.4 requires submittal by the owner or operator of his SPCC plan to the EPA Regional Administrator for review and possible amendment. The Regional Administrator may require that the plan be amended to minimize the possibilities of spill recurrence. After EPA review of the plan, an amendment inspection may be performed which may result in additional SPCC requirements being specified by the EPA. The legal basis for this is contained in 40CFR112.4(d) which states, in part:

> "After review of the SPCC plan ... submitted by the owner or operator ... the Regional Administrator may require the owner or operator ... to amend the SPCC Plan if he finds that the Plan does not meet the requirements of this part or that the amendment of the Plan is necessary to prevent and to contain discharges of oil from such a facility ... and shall specify the terms of such amendment."

EPA's SPCC regulations were to be implemented by 11 January 1975 by about 30,000 oil marketing terminals and bulk plants; about 285 oil refineries; several thousand production facilities, both onshore and offshore, and many bulk oil consumers. As of 1 June 1976, the EPA had completed 12,313 compliance inspections. Evaluation of the SPCC program to date, in terms of spill histories and enforcement, has disclosed variations among the EPA regions (Neal and Dalsimer, 1978).

OBJECTIVE

Uniformity in carrying out SPCC inspections is desirable and therefore a document which provides uniform guidance on a nationwide basis is required. Also, personnel new to the SPCC program need to be trained in inspection and documentation procedures.

This "Guide for Spill Prevention Control and Countermeasure Inspectors" is to be a training and guidance report for those performing compliance inspections and amendment inspections and documenting such inspections to enforce the Oil Pollution Prevention Regulations promulgated in 40CFR112 for nontransportation-related onshore and offshore facilities. Operators/owners of such facilities should also find this report useful in developing their SPCC plans.

CONTENTS

The remainder of this report is divided into Arabic-numbered sections. Section 2 describes the role of the SPCC inspector, including the knowledge and skills he should possess, the attitude and behavior he should exhibit when dealing with facility personnel, and the attire and equipment he should take into the field. Section 3 briefly covers the affected nontransportation-

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related facilities (discussed in detail in Appendix B) and their potential for incurring oil spills. Section 4 is devoted to Compliance Inspections starting with preparations for the inspection and then continuing with the initial contact with the facility and the SPCC plan review, and ending with the facility inspection itself. Section 5 deals with Amendment Inspections and parallels 4 in its sections. Section 6 deals with documentation of inspections for both compliance and amendment inspections. This is followed by a section on References.

This is followed by a number of appendices which include the texts of the applicable federal EPA SPCC regulations (Appendix A), a discussion of nontransportation-related facilities (Appendix B), an SPCC inspection checklist (Appendix C), Report of SPCC Inspection forms (Appendix D), and EPA-SPCC Data Bank forms (Appendix E). The report concludes with a Glossary of the most commonly used terms.

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SECTION 2

ROLE OF THE SPCC INSPECTOR

This section deals with the SPCC inspector's role, knowledge, skills, attitudes, and behavior, as well as the equipment the inspector should carry and know how to use. Both men and women may be inspectors; in what follows, the use of a masculine pronoun will be taken as applying to women as well.

The SPCC inspector works directly or indirectly for the Surveillance and Analysis Division or the Enforcement Division of one of the 10 U.S. EPA Regions, shown in Figure 1. His findings and recommendations are filed in his division, and when necessary are also transmitted to the regional Enforcement Division for action under 40CFR114 (see Section 1 and Appendix A).

The inspector will be asked to perform both compliance and amendment inspections throughout the states in his EPA Region. In the case of coastal states, this may include offshore facilities in inland waters of the United States. Inland waters generally include those within the coastal 3-mile limit, depending on the particular state. The 1977 amendments to the FWPCA extended EPA's authority for prevention activity out onto the outer continental shelf, and additional amendments may extend the jurisdiction of Part 112 at a later date.

DUTIES

The obvious purpose of inspecting facilities is to ensure compliance with the FWPCA through regulation 40CFR112. But in a larger sense, it is the spirit rather than the letter of the law which should be foremost in the inspector's mind. While the inspector makes determinations of fact, and may ascertain that there are discrepancies and defects in an SPCC plan or its implementation, he must also be mindful of the most effective and equitable way in which the SPCC plan can be brought into compliance and the overall purpose, that of minimizing oil pollution, achieved. Even though the inspector is a representative of the EPA, a government agency, the principal attitude he should exhibit is that of cooperation with the owner/operator of the facility in remedying a problem in a manner which is mutually acceptable. The most successful inspections are those which achieve the desired results through the cooperation of the owner/operator and without the need for enforcement action.

The sequence of tasks performed by the inspector is generally the following:

1. Obtain advance information on facility to be inspected;

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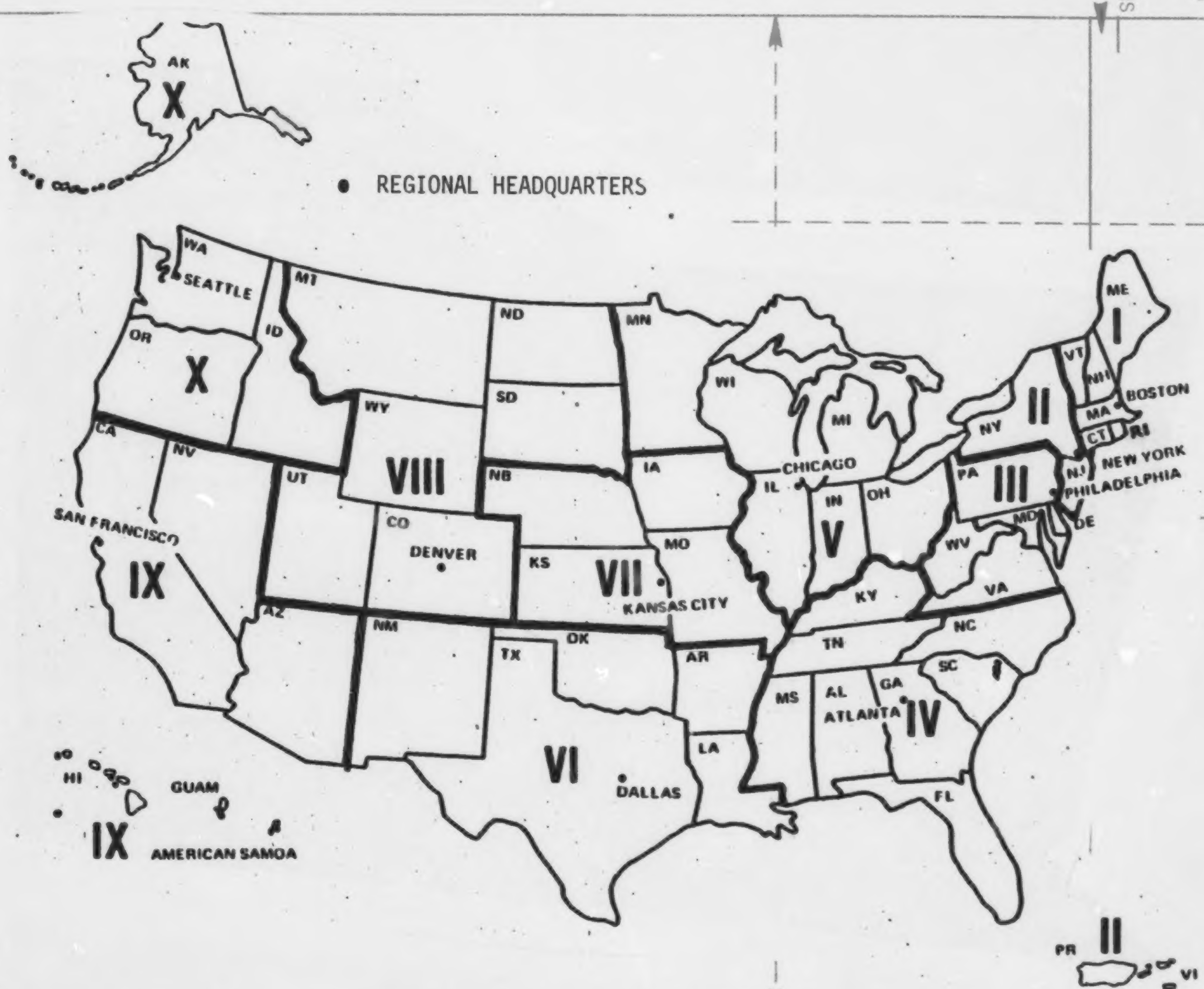
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Figure 1. EPA Regional Offices - Standard Federal Regions

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2. Obtain and review SPCC plan, at the EPA Region (if amendment inspection) or in the field, always prior to field inspection.

3. Make field inspection, filling in inspection checklist(s) applicable to the particular facility at the time of the inspection;

4. Write up inspection field report while still at the facility, discuss the report with the facility operator, and be sure to record his opinions;

5. Write up inspection documentation report with conclusions and recommendations; and in the case of amendment inspections, include specific engineering changes which in your judgment should be made to reduce future spill hazards;

6. Enter information from the inspection on EPA-SPCC Data Bank forms.

Some forms and checklists are provided in this report for use by inspectors in the field. However, it is highly desirable that the documentation report be written as much as possible in a continuous narrative style, making each documentation report as individual to the facility of interest as possible and highlighting the specific nature, problems, etc. of that facility. This will enable any subsequent interaction with that facility to be carried out most effectively, as well as permit any later amendment inspection to be as accurate as possible, comparing past and present conditions.

KNOWLEDGE

The inspector must have a good knowledge of the basic SPCC regulation contained in 40CFR112, especially Part 112.7 which contains the guidelines for SPCC plans. Appendix A contains the full text of this regulation as well as other associated oil spill regulations. Jaffe (1978) paraphrases 40CFR112, citing legal clarifications. A frequently used format for an SPCC plan for production facilities is that suggested by the American Petroleum Institute in its Bulletin D16 (API, 1976), of which the inspector should have a reference copy.

√ 1976

Next, the inspector must become familiar with the SPCC plan in its various forms. The plan contains "certification information" with information about facility, ownership, and plan preparation, followed by sections on prevention of oil spills and containment of oil, should a spill occur. The large compendium entitled "Oil Spill Prevention, Control, and Countermeasure Plan Review" (Pace, Inc., 1975) has a section on SPCC plans, with several examples. The inspector should have a reference copy of and be familiar with this document.

The inspector must also know the makeup of the various types of nontransportation-related facilities. The facilities affected are spelled out in the appendix of 40CFR112 (Appendix A). Copious descriptions are contained in the Pace report, touching on all types of facilities. Section 3 and Appendix B examine these from the SPCC Inspection standpoint.

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Before the inspector embarks on an SPCC Plan Review or a field inspection of a facility, he must acquaint himself thoroughly with the equipment and structures that make up that facility. Once he has a good understanding of the way in which oil moves into the facility, within the facility, and out of the facility, he is able to spot the places where potential oil spills can occur. Section 3 lists specific spill hazards and causes, edited from the Pace document.

For the case of offshore and onshore crude oil petroleum systems, an analysis of some 15,000 spill records in several states provided SPCC guidelines for systems and components of such facilities, useful in developing and reviewing SPCC plans (Ritchie and others, 1973). Another study investigated small petroleum production and products distribution facilities in four regions of the country to identify operational and economic SPCC problems. For each type of plant, a generic SPCC plan was developed to serve as a model (Trentacoste and others, 1980).

Having acquired a knowledge of the federal regulations, SPCC plans, the nature of nontransportation-related facilities, and the spill-prone parts of such facilities, the inspector is in a position to evaluate and review SPCC plans from a regulatory and broad technical standpoint.

SKILLS

The most important part of the inspector's job is in the field. He should have a scientific or technical background and be a good observer. Beyond acquiring specific skills which are described below, he must acquire proficiency in activities which involve making observations of drainage and facility layout. In addition, the inspector should have a genuine interest in interacting with people, even though the relationship between the inspector and the owner/operator may be an adversary one.

The required skills fall into the following categories:

1. Reading of topographical maps and general (not specialized) interpretation of aerial photographs
2. Terrain appraisal to indicate the course taken by potential flows of spilled oil
3. Ability to determine the adequacy of containment structures and contingency plans
4. Ability to communicate orally with owner/operator
5. Documentation skills, such as writing, sketching, and photography

These five skills will be treated in the following subsections.

Reading of Maps and Aerial Photographs

The inspector will use maps originating from different agencies during SPCC inspections. Notably, he will use topographical maps such as those

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distributed by the U.S. Geological Survey, called "quad sheets." These maps contain (brown) contour lines which give an indication of the topography of the actual terrain, and (blue) lines indicative of perennial and intermittent watercourses. Superposition of an onshore facility on a topographical map permits the inspector to determine whether or not a discharge might reach navigable waters. An explanation of the nature and use of topographical maps is contained in the section on "Stationary Containment" (V.B.4) of Pace Co. (1975).

Aerial photography has been used to clarify details on the ground where surface accessibility is difficult and where dense vegetation exists. Specialized techniques involving color photography have been developed, notably by the EPA Laboratory in Las Vegas, NV, applicable to SPCC inspections. Specialized differentiations in color can be used to identify variations in surface conditions, including detection of oil-covered areas. Shadows can be used to estimate the ground height of structures and thus the volume of storage tanks. Aerial photographs furnished to EPA inspectors will generally have already been interpreted and questionable areas noted by specialists. However, the inspector generally familiar with aerial photography can use the photos to orient the facility on a quad sheet, orient himself on the facility, and locate important features to be examined during inspection.

Terrain Appraisal

The inspector must determine, in the field, whether there is a reasonable spill expectation, defined as the potential flow of spilled oil from a facility to navigable waters. He will need to estimate whether ground slopes in and around a facility cause any spilled oil to flow out or stay contained within the facility. He may use instruments such as a hand level to assist in these observations. The SPCC regulation only deals with spills reaching surface waters. However, spills reaching surface waters by way of transport by ground water come within the purview of 40CFR112. Since most areas in the United States experience rainfall which runs off, and navigable waters include intermittent streams (most storm drains ultimately lead to navigable waters), most onshore facilities will have a reasonable spill expectation. An exception would be a desert area with negligible rainfall and no navigable waters in the vicinity. The inspector must be able to make simple field drawings and use topographic maps to indicate the relationship between the facility, the course of oil spills, and navigable waters.

Adequacy of Spill Containment Measures or Contingency Plans

Frequently, the inspector will need to know the volume of above-ground tanks of various shapes and sizes and also the storable volume within containment structures such as dikes. First he must know the dimensions of these structures and if they are not available from plans, field estimates must be made either by pacing or measuring, or by counting plates and seams. Generally, a containment dike must be able to store the volume of the largest tank which it surrounds. Calculation formulas for various shapes encountered in the field are contained in Appendix E, "Dike and Tank Volume Calculations," of the Pace Co. report. The inspector must also be able to make a judgment as to the strength of the structures, from field observation and elementary

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hydrostatics. Unreinforced concrete block walls, for example, when used for diking will have strength to retain only a small hydrostatic head.

40CFR112.7(d) offers an SPCC plan alternative to stationary containment, in the form of a strong oil spill contingency plan and a written commitment of manpower, equipment, and materials to enforce the contingency plan. When secondary containment systems are impracticable, the owner/operator must clearly demonstrate such impracticability. The contingency plan then becomes part of the SPCC plan and the inspector must be able to make a judgment as to its adequacy, guided by 40CFR109 (Appendix A).

Oral Communication Skills

The inspector will be involved in face-to-face conversations and telephone conversations with a variety of facility personnel, ranging from upper management to on-site supervision and workers. In all these contacts he must be able to express himself clearly and concisely, sticking to the business at hand. He should make a record of important conversations, noting the time, the place (or if it was a telephone conversation), the other person, and the main points of what was said on both sides, with quotes of important statements.

Documentation Skills

In the course of the field inspection, the inspector may have occasion to take photographs in the facility and to make field sketches and maps. He should always ask permission before using his camera. He will be filling out the SPCC Inspection Checklist (Appendix C) and the Report of SPCC Inspection (Appendix D). The most important and permanent of these documents is the last-named because it furnishes the actual evidence for any subsequent enforcement action, whether it results in a court case or not. The Report of SPCC Inspection includes documentation which should be written up in sufficient detail so that even if the persons associated with the inspection, whether representing the owner/operator or the government, are no longer available, the report can stand on its own. It should be written in narrative form and it may be necessary to include sketches, maps, and/or photographs.

ATTIRE AND EQUIPMENT

The inspector will be meeting with facility personnel in city offices, field offices, in onshore facilities, and on offshore platforms. In each place, his attire should be suited to the occasion and match that of his counterparts. When going into the field, he should carry a hard hat and pocket knife, and wear tear-resistant clothes and oil- and slip-resistant work shoes/boots with safety toes, gloves, and raincoat as necessary. All safety attire and equipment should be nonsparking, not produce static electricity, and comply with OSHA regulations. In his car he should carry an intrinsically safe camera with film. Also, a cassette tape recorder might be useful. These two devices would normally not be used unless special circumstances arose or the regional policy required it, and in all cases only with the consent of the facility owner/operator. The inspector should carry a rugged briefcase, the suggested contents of which are listed below:

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- Identification/credentials, with photo
- SPCC Inspection checklist (Appendix C) blanks
- Documentation Report of SPCC Inspection (Appendix E) blanks
- SPCC Inspection Field Report (Appendix D) blanks
- Tablet (8½" x 11" min.)/sketch pad
- 12-inch scale and 50-foot tape measure
- Shorthand notebook (for log/notes)
- Tank and dike volume formulas or nomographs
- Standard symbols listing and template(s)
- Copies of 40CFR112 (Appendix A) (one dozen min.)

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- Maps of areas, including highway and topographical
- Aerial photos (if available)
- SPCC plan for facility, if available
- Extra ballpoint pen, pencils (various colors)
- Three-ring notebook or clipboard (this will hold inspection forms and copies of 40CFR112)
- Pocket electronic calculator (in working condition)
- Hand level and range finder

ATTITUDE AND BEHAVIOR

The overall role of the SPCC Inspector has been discussed above, in terms of "matter" and "manner." The "matter," consisting of knowledge, skills, and equipment that the inspector is expected to possess, has been covered. The "manner" will be covered here.

It is a fact of life that as the world shrinks, individuals and organizations become more interdependent and are less and less able to live independently of others. The inspector needs to realize (as the owners/operators should realize) that we are all interdependent and that regulatory agencies such as the EPA are not enemies of business. They are, in fact, partners. However, if something goes awry in this partnership a severe adversary relationship can develop, which can be detrimental to all concerned. The inspector cannot totally avoid such a relationship, but he can minimize it by proper attitude and behavior.

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In any telephone contacts, which may precede face-to-face meetings, the inspector should establish his image as a firm but polite EPA representative. When visiting a facility, he should be mindful not only of the general amenities that a guest observes, but should be particularly aware of specific taboos with regard to smoking, alcohol, drugs, and firearms. Under no circumstances should he visit a facility when under the influence of alcohol or drugs. He must not take alcoholic beverages, illegal drugs, and firearms into a facility. If a smoker, he should ask permission to smoke if visiting an office area or other designated smoking area. The greater part of facilities that handle oil will be designated non-smoking areas, and there may be state laws governing the carrying of matches and cigarette lighters in such areas.

Access to facility areas is at the discretion of the owner/operator. If access to any area is denied to an inspector, he should not challenge this, but make a note of the incident. In cases of significant noncooperation, a court order to permit access can be obtained.

During the inspection, there will be frequent routine legal questions regarding time/extensions, applicability, penalties, and so forth, which are quite clear in 40CFR112 and can be answered in a straightforward manner. However, occasionally a difficult legal question may arise. At this time, it would be advisable for the inspector to clarify his role, e.g., "I'm here to evaluate engineering plans -- I'm not qualified to give legal opinions; therefore, you will need to discuss those areas with the EPA attorney." Include the name of an appropriate attorney in the Regional Enforcement Office or the Regional Counsel as a contact.

Some specific "do's" and "don'ts" are listed below:

Do Be:

- Businesslike
- Friendly
- Knowledgeable
- Helpful/Informative
- Cooperative
- Considerate
- Firm (not stubborn)

Don't Be:

- Hostile/belligerent/arrogant
- Personal (with criticism)
- Insulting
- Wasteful of the owner/operator's time
- Disinterested in the owner/operator's problems

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- The willing target of insults/abuse from facility personnel -- leave at once
- Argumentative
- Subjective
- Impatient

No one can be expected to have all these desirable personality, character, and attitudinal traits all the time, but it is essential for the inspector to strive to have a basic understanding of the "road blocks" to doing an effective job that he can unintentionally set up.

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SECTION 3

AFFECTED FACILITIES AND THEIR SPILL POTENTIAL

NONTRANSPORTATION-RELATED FACILITIES

The SPCC regulations affect "Nontransportation-Related Onshore and Offshore Facilities." These arc defined in the Appendix to 40CFR112 (reprinted in full in Appendix A of this report) as falling into 11 categories, briefly described as follows:

(a) Fixed onshore and offshore oilwell drilling facilities

(b) Mobile onshore and offshore oilwell drilling platforms, barges, derricks, etc.

(c) Fixed onshore and offshore oil production structures, platforms, derricks, and rigs

(d) Mobile onshore and offshore oil production facilities

(e) Oil refining facilities

(f) Oil storage facilities

(g) Industrial, commercial, agricultural, or public facilities which use and store oil (including large oil-immersed transformers)

(h) Waste treatment facilities

(i) Loading racks, transfer hoses, etc., used to transfer oil to and from highway vehicles or railroad cars

(j) Highway vehicles and railroad cars used for transport of oil within a nontransportation-related facility

(k) Pipeline systems used for the transport of oil within a nontransportation-related facility

The term "oil" means oil of any kind (animal, mineral, and vegetable) and in any form (including crude, refined products, sludge, refuse, oil mixed with wastes other than dredged spoil). Excluded are facilities associated with the handling or transferring of oil in bulk to or from a vessel.

Further, only those facilities are affected which could reasonably be

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expected to discharge oil in harmful quantities into waters defined as navigable and which have non-buried aggregate storage capacity greater than 1320 gallons or non-buried storage capacity greater than 660 gallons in a single container or which have underground buried storage capacity in excess of 42,000 gallons.

In Appendix B there is a detailed discussion of typical nontransportation-related facilities from the SPCC standpoint, emphasizing features prone to spills. Appendix B is divided into (1) Onshore Nonproduction-Related Facilities, (2) Onshore Production and Drilling/Workover Facilities, and (3) Offshore Production and Drilling/Workover Facilities.

SPILL HAZARDS

The information in the next few pages ("Spill Hazards" and "Spill Causes") is adapted from the Pace Company report, 1975. Discounting catastrophic accidents such as major fires, earthquakes, or explosions, most oil spills resulting in environmental degradation can be classified as (1) equipment omissions or failures, and (2) operators' errors. Adequate design, proper equipment selection, careful inspection, and prompt correction of deficiencies can prevent almost all damage from the first classification. Automated monitoring and safeguards can prevent many operational errors. However, no hardware can take the place of adequate operator training and supervision.

Many spills are of small volume, one or two gallons, but if these spills occur frequently, the effect on the environment can be significant. Large spills which might occur if a large storage tank were to rupture can be equally detrimental, although the occurrence might be less frequent. Table 1 has been prepared based on an evaluation of both the probability and severity of potential spills. The relative importance of each is a matter of experience and judgment.

Data do not exist on the probability and severity of spills for the facilities described in this report. The information presented is based on actual experience with spills for the facilities. An attempt has been made to present the relative importance of spills by type. Naturally, there will never be a full consensus on any type of numerical ranking of probability/severity. However, this evaluation, although somewhat arbitrary, should be of value as a guide in determining the relative importance of each piece of equipment and each operation having a potential for oil spills.

Table 1 lists an overall view of the probability/severity of spills. However, a more accurate determination of spill potential can be obtained by assessing the following factors for a particular facility under review:

- Nature and amount of oil handled
- Frequency of use of piping, loading rack, tank drain, etc.
- Operation conditions: temperature, pressure, flowrates
- Condition of equipment

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TABLE 1. AREAS OF POTENTIAL SPILL HAZARDS*

	Tank Farms	Terminals	Airports	Power Plants	Industrial Plants	Drilling	Onshore Production	Offshore Production
EQUIPMENT								
Tanks								
Gauges	H/3	M/3			H/3		M/3	M/2
Sampling facilities	H/3	H/3	M/3	M/3	H/3			
Shell and bottoms	L/1	L/1	L/1	L/1	L/1		L/1	L/1
Underground seepage	L/1	L/1	L/1	L/1	L/1			
Heating coils	M/2			M/1	L/2			
Containment dikes	M/2	M/2	M/2	M/2	M/2	M/3	L/2	
Dike drains	H/2			L/2	M/2		M/2	
Pipe, Valves & Fittings								
Seal failure						L/1	L/1	L/1
Valve stem packing	M/3	M/3	M/3	M/3	H/2		M/2	M/2
Gaskets	M/2	H/3	M/3	M/3	H/2		M/2	M/2
Pipe rupture	L/1	L/1	L/1	L/1	L/2		L/1	L/1
Pumps & Mechanical Equipment								
Seals	M/2	M/3	M/3	M/2	H/2	H/3	H/1	H/2
Lubricating systems					H/2	H/3		H/2
Loading Stations								
Fill safeguards		L/1	L/1				H/2	
Curbs and drains		H/2	H/2				M/2	
Waste Disposal								
Oil sumps	M/2	M/3		M/2	M/2		H/2	H/2
Separators	M/2	M/3		M/2	M/2		M/1	H/2
Site drainage	H/1	L/2	M/2	L/2	H/2	H/2	M/2	
Pits						M/2	M/2	
OPERATIONS								
Tanks								
Filling/overfilling	H/1	H/1	M/2	M/1	H/1	M/2	H/1	L/2
Sampling	H/2	M/3	M/3	M/3	H/2		H/3	L/3
Cleaning	H/1	L/2	L/2	L/2	M/1		H/2	L/2
Dike draining	H/2			L/2	M/2		H/2	
Pipes, Valves & Fittings								
Maintenance		H/2	M/2	M/2	H/2	H/1	H/3	H/2
Collision		H/1	L/2		L/1		L/1	
Pumps								
Maintenance	H/3	H/3	H/3	H/3	H/2	H/2	H/3	H/2
Loading Racks								
Overfills		H/2	M/2				H/2	
Loading drips		H/3	H/3				H/3	
Waste Disposal								
Monitoring	H/2	M/3	M/3	M/3	M/2	M/2	H/2	H/2
Maintenance	M/1	L/2	L/3	L/3	L/2	H/2	L/2	L/1

KEY:

Probability	Severity
H - High, occurs frequently	1 - Major cleanup required
M - Medium, could occur periodically	2 - Intermediate cleanup required
L - Low, could occur on less frequent occasions	3 - Minor cleanup required

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* Adapted from Pace Company Consultants and Engineers, 1975. In training manual for Oil Prevention Control and Countermeasure Plan Review.

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- Degree of operator responsibility
- Distance to water

SPILL CAUSES

The following is a list of specific causes of potential spills for each facility type. These lists are intended to augment the subheadings of Table 1, explaining how spills have occurred at each of the facilities listed. At any specific facility, adequate safeguards or adequate maintenance may minimize or negate the potential for spills. However, each item is worthy of inspection to properly evaluate the spill expectation (Pace Co., 1975).

Bulk Storage Facilities -- Tank Farms and Tankage, Including Drums

- Spills due to overfilling of tanks
- Rupture of tanks
- Leaks in pipe, valves, pumps, fittings, and other equipment
- Leaks in containment dikes
- Inadequate secondary containment systems
- Oil flow from diked area through open dike valve
- Level instrument failure allowing tank overfilling
- Piping and tank damage by collision with mobile equipment
- Spills from water drawoff from tanks
- Spills from tank bottom cleanout and sludge disposal
- Improper disposal of samples
- Overflow of oil/water separation equipment by rainfall flooding
- Poor maintenance of pipe, valves, pumps, fittings, and other equipment
- Plugging of drainage system by debris
- Oil/water separation equipment with insufficient treatment capacity
- Spills from heating coils in heavy fuel tanks
- Spills from line flushing
- Spills from pipe and tankage changes
- Spills from underground storage tanks
- Possible sabotage

Bulk Handling Facilities -- Terminals, Pipelines

- Spills from quick-connect coupling operation and damaged loading connections
- Overfilling tank trucks, tank cars, barges, tankers, etc.

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Bulk Handling Facilities -- Terminals, Pipelines (continued)

- Lack of curbs, drains, and spill collection system
- Improper operation of oil/water separator
- Leaks from loading arms, especially joints and gaskets
- Improper disposal of sludge from product filters
- Insufficient sump capacity (should be equal to volume of largest compartment of tank truck or rail car)
- Operators incorrectly setting loading meters and tanks overfilling
- Level switch or sump pump failure on oil sumps
- Spills from ruptured hoses
- Spills from truck or rail cars caused by moving before completely disconnecting hoses or loading arms
- Possible sabotage

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User Facilities -- Airports

- Leaks from quick-disconnect couplers
- Filter sludge disposal
- Tank sample disposal
- Cleanup of spills in sumps
- Leaks from pump seals and other equipment due to poor pump maintenance
- Spills from storage facilities over or above ground

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User Facilities -- Power Plants

- Spills from heating coils in heavy fuel tanks
- Leaks and spills associated with railroad tank car and truck unloading facilities
- Leaks from pipe, valves, pumps, fittings, and other equipment
- Leaks from tank mixer stuffing boxes
- Spills and overfilling of tanks
- Sludge disposal from tanks
- Line flushing oil disposal
- Spills from storage facilities

User Facilities -- Industrial Plants

- Spills due to manual transfer of oil
- Spills from storage tanks

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User Facilities -- Industrial Plants (continued)

- Tank damage as a result of collisions with vehicles
- Spills caused by lack of secondary containment systems
- Spills from oil burners
- Overfilling of tanks
- Leaks from pipe, valves, pumps, fittings, and other equipment
- Leaching from oily wastes
- Spills from deliveries of fuel oil and oil products
- Spills from machinery and cutting fluid operations
- Spills from storage facilities

Drilling and Workover

- Dike leaks and overfilling of the reserve pits
- Spills at the mud preparation site
- Spills from drum and small tank storage of engine and machinery lube oils
- Spills and leaks from fuel tanks
- Machinery leaks from rotary table, draw works, and generators
- Spills from drill pipe racks
- Spills and overflow from settling pit, shale shaker, and mud suction pit
- Leaching from cuttings and shale
- Sand cleanout spills
- BOP failure; blowout
- Flooding of waste pits due to heavy rainfall

Onshore Production

- Leaks from capped and abandoned wells
- Spills from pipe, valves, pump fittings and other equipment
- Gathering line leaks
- Gathering line rupture by equipment collision
- Gathering line breakage by rainfall runoff
- Tank leaks and ruptures
- Tank overfilling
- Rod pump stuffing box leaks
- Gauging spills, sample disposal

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Onshore Production (continued)

- Transfer hose, coupling, and loading rack spills
- Blowout
- Salt water pit overflow
- Christmas tree leaks
- Tank cleanout
- Water drawoff sump overflow spills

Offshore Production

- Deck leaks and spills
- Sand erosion of pipe, valves, and fittings
- Fuel and lube oil spills
- Pump seal and packing leaks
- Pipe, valve, and fitting leaks
- Drips from draw works, rotary tables, and engines
- Blowout of well
- Subsurface valve failure
- Sand cleanout and handling spills

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SECTION 4

COMPLIANCE INSPECTIONS

PREPARATION AND INITIAL CONTACT

Once a facility or series of facilities in a certain area has been selected for compliance inspection, the inspector should try to obtain as much advance data as possible. These data will include location, names and titles of operating personnel, name of owner, type of activity, storage capacity, data on other facility equipment, normal working hours, climate, precipitation, etc. In this connection it is very useful to take aerial photographs for they can reveal not only the sizes of tanks and other facility items, but also oil-stained areas which show residual oil, presumably from previous spills. The general case, though, is that the facility will not have been previously identified and no data will be available. Most compliance inspections will be surprise inspections without warning to the owner or operator.

Alternately, an initial contact may be made with the owner or operator, usually by phone, for an early review of SPCC Plan(s). Such a review meeting may be attended by a number of people from the owner/operator's organization, especially if it is a large organization. Here the inspector will present his credentials and explain precisely the reasons for his visit and his desire to be cooperative in giving any additional explanations desired and in scheduling facility inspection visits at times convenient to the owner/operator.

It will be very helpful if the inspector can obtain a copy of the SPCC plan or plans which pertain to the facility or facilities he intends to inspect. In general, it is preferable to review the SPCC plan before actually visiting the facility so that time can be saved during the actual field inspection because the working of the facility and its spill potential can first be explored on paper.

REVIEW OF SPCC PLAN

In order to determine the adequacy of an SPCC plan, it is recommended that the facility not be surveyed prior to review of the SPCC plan, although many facilities may have been surveyed by EPA's aerial reconnaissance efforts. If the plan is properly prepared, the inspector will be able to formulate a very clear picture of the facility. However, if the facility is surveyed first, the inspector may assume (from memory) that a particular area is discussed in the SPCC plan. Occasionally, for one reason or another, the facility will have been visited prior to reviewing the SPCC plan, and then it is important that the plan be reviewed extra carefully and the facility thoroughly inspected

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again -- the inspector should always visit the facility after reviewing the SPCC plan. Both actions may, of course, be carried out in succession during a single visit to the facility.

Two forms for field use in SPCC plan review and facility inspection have been devised. The "SPCC Inspection Checklist" (Appendix C) for all types of facilities is provided for the inspector to make sure he has covered all the requirements in his review. This Checklist completely parallels the SPCC Guidelines set forth in 40CFR112.7. The items, in order, are: proper containment provisions or an alternate spill contingency plan; onshore nonproduction-related facilities; onshore oil production facilities; onshore drilling and workover facilities; offshore oil drilling, workover and production facilities; and facility operation items such as inspection, records, security, personnel and training. In the case of simple facilities and experienced inspectors, the Checklist (Appendix C) may be omitted.

The "SPCC Inspection Field Sheet (Appendix D) is a one-page writeup in the field of the findings of the inspector, based on his SPCC plan review and subsequent facility inspection. "SPCC Inspection Summary Sheet" and the "Detailed SPCC Documentation" in Appendix D are for detailed documentation of the SPCC inspection (see Section 6). The Field Sheet is EPA Form 7500-53.

SPCC Plans -- Small Facilities

Many of the inspections will involve relatively small facilities, such as:

- Bulk oil storage/distribution
- Service stations
- A small oil producer (three or four wells)
- Miscellaneous (boat marinas, industrial and agricultural users, etc.)

These facilities are simple enough so that an inspector can review the SPCC plan without preliminaries. In general, the inspector needs to follow the order on the "SPCC Inspection Field Sheet" form (Appendix D) after he has quickly skimmed through the plan for a general overview. There are 12 items on the form, to be filled out in the field. As a guide, instructions appear on the reverse of the Field Sheet, EPA Form 7500-53 (App. D). More specific instructions appear in the following paragraphs:

Item 1 of the form is self-explanatory and includes the trade name of the facility. It is important that the "location" be as precise as possible, e.g., "on Hwy 35, 7.7 miles south of Sherman, Texas"; or, "on the south shore of Lake Texoma, approximately one mile west of the Hwy 77 bridge"; or, "5208 N. Elm, Des Moines, Iowa"; or, "Latitude 29° 44' 25" Longitude 90° 7' 35" (Lake Salvadore Oil Field, Jefferson Parish, Louisiana)".

Item 2 should include information about both the owner (of the facility, of the products stored, of the equipment), and the operator (is he a lessee, consignee, or an employee? Is he the one "responsible" for the facility --

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including oil spill prevention?). The preceding information is important for establishing an effective spill prevention program and for EPA Enforcement Division attorneys who may have to initiate legal proceedings.

Item 3 lists the oil materials that are being stored aboveground and buried, by type and size of container. Sufficient data shall be recorded such that a subsequent change in the facility will be evident at a follow-up inspection. Tanks that alternatively contain different liquids should be so noted in the SPCC plan. Plans that specify buried bulk storage should be carefully checked and verified since such storage is rare. Facilities that store large quantities of bulk lube oil will usually need an SPCC plan since it will usually be stored aboveground.

Item 4 should include information about the adequacy of the plan in general, and specific information about any deficiencies in the plan. The "Comments" of Item 10 and attachments can be utilized to provide as much detail as required to provide a complete critique of the plan. The inspector should, after completing his review of the plan, review his findings with the operator so that he thoroughly understands the situation. The inspector should also strive to negotiate any differences and report: the results of the negotiation, what actions the operator will take, and when he will take the actions. Obviously, the major critical area of concern in spill prevention is secondary or backup containment for the storage tanks and the loading/unloading rack. The inspector should review the SPCC plan with special emphasis on these areas.

Item 5, "Date of Inspection," refers to the actual visit to the facility.

Item 6 needs to include the name, registration number, and state of registration of the certifying Professional Engineer. This certification information is usually found at the front of the SPCC plan, but sometimes on the last page. If the facility has changed, an amendment to the plan may have been prepared and should be so noted by the inspector. Such an amendment also requires certification.

Item 7 -- the date of certification needs to include the date on which the SPCC plan was certified and the dates of any amendments to the plan. Actually, the date is not required by 40CFR112 and may not exist.

Item 9 should specify the distance and direction to the nearest named stream, river, lake, bayou which will receive runoff from the facility. If that body of water is relatively insignificant, then the distance and direction to the next significant body of water should also be identified. If the facility runoff goes to a storm drain, the ultimate receiving water should be named.

Items 5, 8, 9, 10, 11, and 12 are to be filled in after actual field inspection of the facility.

SPCC Plans -- Large/Complex Facilities

These SPCC plans would cover facilities such as oil/gas production systems where numerous wells, tank batteries, pipelines, and pieces of processing

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equipment are involved. It also might include large storage terminals which are located along ship channels, harbors, etc., and have barge pipelines and railroad loading facilities.

Due to the complex nature of these facilities, it is preferable to begin the SPCC plan review with a thorough understanding of the total system. For example, an offshore oil/gas field might include the following geographically different facilities, each with its own SPCC plan:

- Nine Tank Batteries
- Two Compressor Platforms
- One Boat Fueling Dock
- One Living Quarters Facility
- One Maintenance Facility
- One Central Oil Storage Facility

Operationally, these facilities all work together as a total system, even though the total area encompassed may be quite large. Occasionally (because of the complexity of the system) a spill hazard situation may be overlooked and it is up to the inspector to aid the operator in uncovering the problem area. This can be best accomplished by an overall review of system drawings, maps, etc. which can be related to the various SPCC plans.

Once an understanding of the entire system is gained, the inspector and the operator can begin to make decisions regarding: (a) which facilities will be reviewed, (b) where are the maximum spill hazards, (c) inspection schedules, (d) transportation and manning arrangements for all facility inspections.

Using the "SPCC Inspection Checklist" (Appendix C) as a technical guideline, the inspector should begin reviewing the SPCC plan(s). For a normal compliance inspection, the review of the SPCC plan can proceed in the same fashion as that described previously for a "small facility" and as shown on the "SPCC Inspection Field Sheet" (Appendix D). For facilities which are a part of a large oil production field, the facility and the field need to be identified in addition to the trade name, type of facility, and location -- for example:

1. Name of Facility, type of facility, and location. XYZ Oil Co.; Tank Battery #3, Dog Lake Field; Terrebonne Parish, Louisiana -- Lat. 29° 10' 50'; Long. 90° 52' 10".

FACILITY INSPECTION

Frequently the inspector will not have had a chance to find out whether a facility has an SPCC plan and he will be making a surprise, or "cold" facility inspection in the field. In such a case he should contact the facility owner/operator, identify himself as an EPA inspector, and ask for the SPCC

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plan for that facility. If no plan exists, he should first determine the oil storage capacity at that facility and by comparison with the SPCC regulation application criterion of 40CFR112.1, determine if the storage capacity is sufficient to fall under the SPCC regulations. The applicability criteria call for a total non-buried storage of more than 1320 gallons of oil or a single container capacity of over 660 gallons, these for aboveground storage; or a capacity of 42,000 gallons or more of buried storage. In all cases, there must be a reasonable expectation that an oil spill would reach waters defined as navigable in harmful quantities.

If the oil capacity of the facility is sufficient to fall under SPCC the inspector should determine whether there exists a reasonable spill expectation from the layout of the facility, topographical maps, known precipitation, measured or estimated slopes, etc. If there is no reasonable spill expectation, a very rare situation in most parts of the country, the inspector should terminate the visit. However, if a reasonable spill expectation does exist, the inspector should proceed, as outlined below. When there is a valid SPCC plan he should proceed as described immediately following.

Facility Inspection With Valid SPCC Plan

After the SPCC plan has been reviewed, it is essential that the facility be thoroughly inspected to determine if the SPCC plan has been properly implemented, or if the plan needs to be amended to reflect changes in the facility since the plan was originally prepared. Facility owner/operators must amend SPCC plans, according to 40CFR112.5, when there is a change in facility design, construction, operation, or maintenance which affects the oil spill potential. Also, they must conduct a review every three years to see if an amendment is necessary. Since the potential fines which can be levied for failure to implement SPCC plans are quite high, it is critical that the inspector exercise the utmost care and objectivity during this phase of the inspection process.

To determine if the SPCC plan has been implemented, the inspector will need to have with him: a copy of the SPCC plan*, the Report of SPCC Inspection forms (Appendix D), the SPCC Inspection Checklist (Appendix C), and any other review notes he has made.

A good starting point in the facility inspection is to examine the testing and inspection records for the facility (last item in Checklist). This is a very important area of implementation and may provide the inspector with valuable information about the general condition of the equipment, specific equipment items which are causing most of the problems, oil spill occurrences, etc. The lack of adequate records usually implies one of the following: the plan did not specify record-keeping and/or testing/inspection requirements, the operator is not aware of the requirements, or the operator does not care. The inspector should report the situation accordingly, and try to resolve any problems with the operator.

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* Note: The SPCC plan should always be returned to the operator at the conclusion of the inspection. If a copy is needed by the inspector for his records, he shall obtain the owner's permission and pay for the reproduction costs.

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Examination of the facility itself can begin either where the oil enters the facility (at the headers, unloading area), or where the oil either leaves the facility or is stored (at the pipeline pumping unit, storage tanks, truck loading rack, etc.). The starting point of the inspection is mainly a matter of personal choice, but it seems to work better if the inspection progresses in a direction which is contrary to the flow, e.g., for a production facility, start at the storage tanks, then to the heater-treaters, then to the separators, etc. Regardless of the direction chosen, it is important to conduct the inspection in an orderly serial fashion, i.e., avoid a random inspection process.

Assuming he decides to begin (in reverse) with the storage tank area/ platform, he should inspect all aspects of the area, to verify that:

- The tanks are structurally sound
- Liquid level sensors are used (if specified)
- The secondary containment is as specified
- The drain system is satisfactory
- Drains are locked closed (onshore only)
- Piping and supports are in good condition
- The number and size of the tanks is as specified
- There is no oil in the containment area

For an offshore oil storage platform, the floor and curbs of the platform need to be checked to verify that no liquids can seep through, and the drain system piping must be examined to verify that it is tight and will not leak liquids. Frequently, the equipment covers large areas and it may be necessary to crawl around under the platform and determine if there is evidence of the platform or drain pipes leaking. (In Gulf area, watch for snakes -- especially under platforms!) All offshore platforms, which are subject to spilled oil, need to have adequate drainage and containment systems to catch spilled oil.

The inspection of the facility continues to the next equipment area, which might be treaters or separators (in the case of oil production), or to loading/ unloading areas (in the case of a bulk oil plant). Much of the same concern about some form of containment will be focused upon this area as it was for the tank storage area. Wherever oil is being handled, oil spills will occur at one time or another, and must be controlled.

As deficiencies are uncovered during the facility inspection, they should be made known to whomever is accompanying the inspector. At the conclusion of the facility inspection, the inspector will summarize his findings and include them in Item 8 of the SPCC Inspection Field Report. The inspector's findings should be openly and completely reviewed with the owner or operator of the

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facility at the conclusion of the visit.

If agreement cannot be reached on the findings, the inspector should ask the owner/operator if he would like to have his opinions included in the report. If so, the inspector should ask him to go slow so that his comments can be written down word for word. It is very important that the inspector not paraphrase, substitute, or leave out any words. It is preferable that the owner/operator observe the words as they are being written down and initial his comments. Alternately, he may want to send along a note as an attachment to the report.

It is well for the inspector to realize that he is not a policeman, judge, attorney, etc. He is merely a reporter who is trained in the technical aspects of spill prevention, control, and countermeasures. Since his reporter's notes are private and confidential, they are never to be left with anyone other than the designated representative of the EPA Regional Administrator or another authorized Government employee.

Facility Inspection Without Valid SPCC Plan

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Occasionally, a facility will have an "SPCC Plan" that is one or two pages in length, and does not address all or any of the requirements of 40CFR112. Such a document is not to be considered a valid SPCC plan, even if it has been properly certified. The inspector shall make a note of such an invalid plan and advise the owner/operator accordingly. Also, a facility that is required to have an SPCC plan by law may be found to have no SPCC plan at all.

In such cases, it is important that the inspector proceed with the interview and the inspection of the facility to complete the SPCC Inspection Field Sheet -- except Items 6, 7, and 8, which have to do with the review of the SPCC plan. Item 4 ("Is an SPCC plan available?") is important because the inspector must document his evaluation of the owner's need to have an SPCC plan; and, specify why, if the owner believes he does not need to have an SPCC plan for his facility (e.g., -- "we only used that tank during the oil embargo," or, "we have only been in operation about a year -- I thought I had two years to prepare a plan," or, "I thought that the law only applied to facilities that were close to a large navigable river like the Red River or the Mississippi River," etc.). Due to the potentially serious nature of noncompliance, it is imperative that the inspector be objective, accurate, and comprehensive about his evaluation.

Item 9 ("Name of water body that potential spill could enter") is obviously a factor in the evaluation of the "need to have a plan," but due to the fact that oil, in most areas, does flow to a stream eventually during a heavy prolonged rain and when the ground is saturated, very few facilities will be exempt due to their location from water. However, to avoid possible future legal problems, it is recommended that a careful analysis of the direction of flow to the nearest named body of water (lake, stream, etc.) be performed.

Item 10 ("Comments") can include quotes from the owner/operator and shall be used to record all pertinent information. As a minimum, it will specify

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what, if any, spill prevention, control, and countermeasure equipment is being utilized, and indicate when preparation and implementation of an SPCC plan may be expected.

After all the data have been obtained, the inspector should briefly review 40CFR112 and leave a copy with the owner/operator. It is advisable to explain (in a friendly, non-threatening manner) to the operator the legal ramifications, penalties, etc. of not being in compliance. He must be given to understand that the law is reasonable and important and that it is in his own best interest to get into compliance as soon as possible. If he asks for help in preparing the SPCC plan or for a recommendation of a professional engineer, the inspector must decline on all points to avoid any conflict of interest and unprofessional conduct. He may refer him to the state authority which performs registration of Professional Engineers, or a professional organization which may have a list of engineers with SPCC experience.

Facility Inspection With Impracticable Oil Containment

Every SPCC plan must address itself to the prevention of oil spills and the containment of oil, should a spill occur. Normally, oil containment is achieved by the provision of dikes, berms, sumps, catchment basins, baffles, and the like. Under 40CFR112.7(d) it is recognized that it is impracticable for certain facilities, both onshore and offshore, to institute stationary containment devices. Instead, a "strong oil spill contingency plan following the provisions of 40CFR109" and a "written commitment of manpower, equipment, and materials" for control and removal of spilled oil must be provided. When these items appear in an SPCC plan, the inspector must first determine whether, in his judgment, it is indeed impracticable to build stationary containment devices, and whether the owner or operator has demonstrated such impracticability. Many offshore facilities and some onshore locations which do not permit all-around containment of tanks are obvious examples. Once the inspector has satisfied himself that a strong contingency plan and commitment of manpower and materials are called for, he must examine these very closely.

In this connection, he must use the detailed criteria set forth in 40CFR109 (Appendix A) under these general headings:

- Definition of the authorities, responsibilities, and duties of all ... to be involved ... in planning or directing oil removal operations;
- Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge;
- Provisions to assure that full resource capability is known and can be committed during an oil discharge situation;
- Provisions for well-defined and specific actions to be taken after discovery and notification of an oil discharge; and
- Specific and well-defined procedures to facilitate recovery of damages and enforcement measures as provided for by state and local statutes and ordinances.

Before the inspector approves this feature of an SPCC plan, he must examine all the steps in such a scenario, including the availability of applicable equipment, materials, and supplies, both locally and regionally, adequate to remove the maximum oil discharge to be anticipated. He must agree that there is a "strong" oil spill contingency plan and associated written commitment, sufficiently effective to contain the maximum spillage which could occur. If he is not satisfied that this is the case, he should note any deficiencies in the containment features of the SPCC plan and require that these be strengthened.

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SECTION 5

AMENDMENT INSPECTIONS UNDER 40CFR112.4

PREPARATION

When there has been a "triggering" spill as defined in 40CFR112.4(a), the owner must file with the Regional Administrator information including an SPCC plan with amendments, if any, incorporating the cause of the spill(s), countermeasures, equipment repairs or replacements, and additional preventive measures taken or contemplated to minimize the possibility of recurrence. The same information must also be sent by the owner/operator to the State water pollution agency which may conduct a review and make recommendations to the Regional Administrator. The Regional Administrator may require that the owner/operator amend the SPCC plan for the facility and specify the terms of the amendment. An amendment inspection will normally be required to determine if such an amendment is necessary and, if so, what operations should be addressed in the amendment. Before conducting an amendment inspection, the inspector must make himself thoroughly familiar with materials submitted by the owner/operator and the State, including a description of the facility. He is then ready to make a review of the SPCC plan.

REVIEW OF SPCC PLAN

The inspector shall review the original SPCC plan, the information regarding the spills, and the corrective actions taken, if any, to determine if appropriate measures are being taken to eliminate the cause(s) of the spills. He is not restricted to evaluating just the equipment which failed, but he may examine all aspects of the SPCC plan to determine if other areas need changing.

The technical procedure for reviewing the SPCC plan is the same as in a compliance SPCC plan review, which is described in the preceding section. However, since a spill has occurred, the inspector will have additional information, furnished by the owner/operator as required by 40CFR112.4(a), including drawings, maps, and operational data. The SPCC plan review and the facility inspection may result in a requirement by the Regional Administrator that the SPCC plan be amended, specifying the terms of the amendment. The owner/operator may ask for a reconsideration of the decision by the Regional Administrator. He may also appeal the final decision of the Regional Administrator to the EPA Administrator. The owner/operator has 30 days after receiving the final notice from the Regional Administrator or the EPA Administrator in which to incorporate the amendment into his SPCC plan and he has an additional six months in which to implement the amendment.

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After the amendment has been implemented, the inspector may visit the facility and again review the SPCC plan and, based upon the data previously submitted and an examination of the facility, determine whether or not the amendment has been implemented.

Due to the added complexity of an amendment inspection, it is recommended that his comments regarding the SPCC plan be recorded directly on the Detailed SPCC Documentation forms (Appendix D), which may also be used for recording the facility inspection, described in the following paragraphs.

FACILITY INSPECTION

At the outset, it is to be remembered that the inspector carries a greater responsibility in an amendment inspection than in a normal compliance inspection. He also has much more authority to change the spill prevention aspects of a facility.

The amendment inspection itself is identical to the facility compliance inspection and the procedure will not be repeated here. Extra care should be given to the cause of the original spill, and to the assessment of any corrective action taken by the owner/operator. However, he should carefully examine all other areas of the facility.

The conclusion of the amendment inspection is identical to that of the compliance inspection. It will include a review of the results of the inspection with the owner/operator, and a summary of the changes which need to be made in either the SPCC plan or the facility. After the review, the inspector should thank the owner for his hospitality, give him names/addresses/telephone numbers of people to call or write if he has any additional questions, and take his leave.

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SECTION 6

DOCUMENTATION OF SPCC INSPECTION

The final phase of the SPCC inspection process is the documentation, to be written on blank forms that are to be completed for both Compliance Inspections and Amendment Inspections. They are in Appendix D, "Report of SPCC Inspection," as EPA Forms 7500-52 and 7500-54. There are eight pages. The first, Part B, is the "SPCC Inspection Summary Sheet" and if the facility is in compliance, nothing more is required. If the facility is not in compliance, Part C, "Detailed SPCC Documentation" in seven items (seven pages) is to be filled out. Item 1 is a facility description, Item 2 describes the receiving water in case of a spill, Item 3 is for comments by the inspector and by the owner/operator, Item 4 is devoted to the SPCC plan review for all inspections, Item 5 is for SPCC Amendment Recommendations in the case of an Amendment Inspection, Item 6 is one or more field drawings, and Item 7 is one or more photographs.

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As a guide to filling out Part B (EPA Form 7500-52) and Part C (EPA Form 7500-54), instructions have been placed on the face of Part B and on the last page (page 8, following Item 7) of Part C. These forms are available at the EPA Regions.

The inspector should prepare the documentation as soon as possible after the actual inspection, using the Inspection Checklist (Appendix C) and SPCC Inspection Field Sheet (Appendix D), plus other notes as raw materials. Timely preparation of the documentation will permit impressions still fresh from the inspection to be part of the report. In fact, portions of Parts B and C may be filled out in the field. The emphasis is entirely on narrative writing; all the items in the facility observation report are intended to be narrative in nature where quantitative data are not involved. The documentation must be clear and complete enough to stand by itself. It may be required in the future when memories are dim or the principals may no longer be available to bear witness.

This documentation format is useful for both compliance and amendment inspections. Item 4 of the "Detailed SPCC Documentation" is to be devoted to the SPCC plan review for a statement of inadequacies in the SPCC plan or its implementation. Item 5 should contain SPCC plan amendment recommendations to the Regional Administrator in the nature of engineering changes in the spill prevention control, and countermeasure equipment or changes in facility operation that should be added to the SPCC plan and implemented in the facility.

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The "Report of SPCC Inspection," including the documentation, is kept in the files of the Regional Office, and may be used for enforcement purposes.

An added documentation feature should be the use of the EPA Oil and Special Materials Control Division's National Computerized SPCC Data Bank. Three blank forms are used to enter the information on the computer. These forms appear in Appendix E, and are as follows:

Form A - Facility identification - contains information similar to that in the SPCC Inspection Field Sheet

Form E - Inspection/Enforcement Report - contains information from the SPCC Inspection Summary Sheet

Form S - Spill Report - if required

The documentation on the National SPCC Data Bank is very important because it permits later retrieval of inspection information when triggering spills and facility changes have taken place. It also keeps account of the causes of spills that can be used to reinforce or amend the SPCC regulation.

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REFERENCES

American Petroleum Institute. 1976. Suggested Procedure for Development of Spill Prevention Control and Countermeasure Plans. API Bulletin D 16. Dallas, Texas. 8 pp. plus forms.

Jaffe, James. 1979. Oil Pollution Prevention. The Blue Book. Spill Control Association of America, Southfield, Michigan. 15 pp.

Neal, E. and A. Dalsimer. 1978. Evaluation of the Oil Spill Enforcement Program (no report number). Chi Associates, Inc., Arlington, Virginia. 69 pp. plus appendices.

Pace Company Consultants and Engineers, Inc. 1975. Oil Spill Prevention, Control and Countermeasure Plan Review. Department of Environmental Science and Engineering, Rice University, Houston, Texas. 389 pp. plus appendices.

Ritchie, J.E., Jr., F.J. Allen, Jr., R.M. Feltes, R.Q. Foote, Q.A. Shortt, E.B. Bell, and J. Winn. 1973. Petroleum Systems Reliability Analysis: A Program for Prevention of Oil Spills Using an Engineering Approach to a Study of Offshore and Onshore Crude Oil Petroleum Systems, 2 vols. EPA-R2-73-280a and b. Office of Research and Monitoring, U.S. Environmental Protection Agency, Washington, D.C.

Trentacoste, N.P., G.R. Bierman, and James Cunningham. 1980. SPCC Practices at Small Petroleum Facilities. EPA-600/7-80-004. Industrial Environmental Research Laboratory, U.S. Environmental Protection Agency, Cincinnati, Ohio.

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APPENDIX A

ENVIRONMENTAL PROTECTION AGENCY REGULATIONS

The following pages contain reproductions from the Code of Federal Regulations (CFR), CFR Title 40 - Protection of the Environment, Parts 109, 110, 112, and 114.

Part 109 is titled "Criteria for State, Local, and Regional Oil Removal Contingency Plans. Part 110 is "Discharge of Oil," Part 112 is "Oil Pollution Prevention: Nontransportation-Related Onshore and Offshore Facilities, and Part 114 is "Civil Penalties for Violation of Oil Pollution Prevention Regulations: Nontransportation-Related Onshore and Offshore Facilities.

40CFR112 was last amended March 26, 1976 (see p. 39). A proposed modification was published May 20, 1980, in the Federal Register, Vol. 45, No. 99, pp. 33814-33826. The comment period expired July 21, 1980, but the new regulation has not yet been promulgated. When a new 40CFR112 takes effect, the holder of this report is requested to substitute the new regulation for the one printed here.

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ENVIRONMENTAL PROTECTION AGENCY REGULATIONS ON CRITERIA FOR STATE, LOCAL AND REGIONAL OIL REMOVAL CONTINGENCY PLANS

(40 CFR 109; 36 FR 22485, November 25, 1971)

PART 109 – CRITERIA FOR STATE, LOCAL AND REGIONAL OIL REMOVAL CONTINGENCY PLANS

Sec.
109.1 Applicability.
109.2 Definitions.
109.3 Purpose and scope.
109.4 Relationship to Federal response actions.
109.5 Development and implementation criteria for State, local and regional oil removal contingency plans.
109.6 Coordination.

AUTHORITY: The provisions of this Part 109 issued under sec. 11(j)(1)(B), 84 Stat. 96, 33 U.S.C. 1161(j)(1)(B).

§109.1 Applicability.

The criteria in this part are provided to assist State, local and regional agencies in the development of oil removal contingency plans for the inland navigable waters of the United States and all areas other than the high seas, coastal and contiguous zone waters, coastal and Great Lakes ports and harbors and such other areas as may be agreed upon between the Environmental Protection Agency and the Department of Transportation in accordance with section 11(j)(1)(B) of the Federal Act, Executive Order No. 11548 dated July 20, 1970 (35 F.R. 11677) and section 306.2 of the National Oil and Hazardous Materials Pollution Contingency Plan (35 F.R. 8511).

§109.2 Definitions.

As used in these guidelines, the following terms shall have the meaning indicated below:

(a) "Oil" means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

(b) "Discharge" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

(c) "Remove" or "removal" refers to the removal of the oil from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches.

(d) "Major disaster" means any hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, earthquake, drought, fire, or other catastrophe in any part of the United States which, in the determination of the President, is or threatens to become of sufficient severity and magnitude to warrant disaster assistance by the Federal Government to supplement the efforts and available resources of States and local governments and relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.

(e) "United States" means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Canal Zone, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands.

(f) "Federal Act" means the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1151, et seq.

§109.3 Purpose and scope.

The guidelines in this part establish minimum criteria for the development and implementation of State, local, and regional contingency plans by State and local governments in consultation with private interests to insure timely, efficient, coordinated and effective action to minimize damage resulting from oil discharges. Such plans will be directed toward the protection of the public health or welfare of the United States, including, but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches. The development and implementation of such plans shall be consistent with the National Oil and Hazardous Materials Pollution Contingency Plan. State, local and regional oil removal contingency plans shall provide for the coordination of the total response to an oil discharge so that contingency organizations established thereunder can function independently, in conjunction with each other, or in conjunction with the National and Regional Response Teams established by the National Oil and Hazardous Materials Pollution Contingency Plan.

§109.4 Relationship to Federal response actions.

The National Oil and Hazardous Materials Pollution Contingency Plan provides that the Federal on-scene commander shall investigate all reported spills. If such investigation shows that appropriate action is being taken by either the discharger or non-federal entities, the Federal on-scene commander shall monitor and provide advice or assistance, as required. If appropriate containment or cleanup action is not being taken by the discharger or non-Federal entities, the Federal on-scene commander will take control of the response activity in accordance with section 11(c)(1) of the Federal Act.

§109.5 Development and implementation criteria for State, local and regional oil removal contingency plans.

Criteria for the development and implementation of State, local and regional oil removal contingency plans are:

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(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved or could be involved in planning or directing oil removal operations, with particular care to clearly define the authorities, responsibilities and duties of State and local governmental agencies to avoid unnecessary duplication of contingency planning activities and to minimize the potential for conflict and confusion that could be generated in an emergency situation as a result of such duplications.

(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:

(1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges.

(2) A current list of names, telephone numbers and addresses of the responsible persons and alternates on call to receive notification of an oil discharge as well as the names, telephone numbers and addresses of the organizations and agencies to be notified when an oil discharge is discovered.

(3) Provisions for access to a reliable communications system for timely notification of an oil discharge and incorporation in the communications system of the capability for interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans.

(4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.

(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:

(1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.

(2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.

(3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.

(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:

(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.

(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.

(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.

(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.

(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.

(e) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.

§109.6 Coordination.

For the purposes of coordination, the contingency plans of State and local governments should be developed and implemented in consultation with private interests. A copy of any oil removal contingency plan developed by State and local governments should be forwarded to the Council on Environmental Quality upon request to facilitate the coordination of these contingency plans with the National Oil and Hazardous Materials Pollution Contingency Plan.

ENVIRONMENTAL PROTECTION AGENCY REGULATIONS ON DISCHARGE OF OIL

(40 CFR 110; 41 FR 49810, November 11, 1976)

Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

PART 110—DISCHARGE OF OIL

Sec.
110.1 Definitions.
110.2 Applicability.
110.3 Discharge into navigable waters harmful.
110.4 Discharge into contiguous zone harmful.
110.5 Discharge prohibited.
110.6 Exception for vessel engines.
110.7 Dispersants.
110.8 Demonstration projects.
110.9 Notice.

AUTHORITY: Secs. 311(b) (3) and (4) and 501(a) of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1351 et seq.).

§ 110.1 Definitions.

As used in this part, the following terms shall have the meaning indicated below:

(a) "Oil" means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil;

(b) "Discharge" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping;

(c) "Vessel" means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel;

(d) "Public vessel" means a vessel owned or bareboat chartered and operated by the United States, or by a State or political subdivision thereof, or by a foreign nation, except when such vessel is engaged in commerce;

(e) "United States" means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Canal Zone, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands;

(f) "Person" includes an individual, firm, corporation, association, and a partnership;

(g) "Contiguous zone" means the entire zone established or to be established by the United States under article 24 of the Convention on the Territorial Sea and the Contiguous Zone;

(h) "Onshore facility" means any facility (including, but not limited to motor vehicles and rolling stock) of any kind located in, on, or under, any land within the United States other than submerged land;

(i) "Offshore facility" means any facility of any kind located in, on, or under, any of the navigable waters of the United States other than a vessel or public vessel;

(j) "Applicable water quality standards" means State water quality standards adopted by the State and approved by EPA pursuant to section 303 of the Federal Act or promulgated by EPA pursuant to that section;

(k) "Federal Act" means the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251, et seq;

(l) "Sheen" means an iridescent appearance on the surface of water;

(m) "Sludge" means an aggregate of oil or oil and other matter of any kind in any form other than dredged spoil having a combined specific gravity equivalent to or greater than water;

§ 110.2 Applicability.

The regulations of this part apply to the discharge of oil into or upon the waters of the United States, adjoining shorelines or into or upon the waters of the contiguous zone, prohibited by section 311(b)(3) of the Federal Act.

§ 110.3 Discharge into navigable waters harmful.

For purposes of section 311(b) of the Federal Act, discharges of such quantities of oil into or upon the navigable waters of the United States or adjoining shorelines determined to be harmful to the public health or welfare of the United States, at all times and locations and under all circumstances and conditions, except as provided in § 110.6 of this part, include discharges which:

(a) Violate applicable water quality standards, or

(b) Cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

§ 110.4 Discharge into contiguous zone harmful.

For purposes of section 311(b) of the Federal Act, discharges of such quantities of oil into or upon the waters of the contiguous zone determined to be harmful to the public health or welfare of the United States, at all times and locations and under all circumstances and conditions, except as provided in § 110.6, include discharges which:

(a) Violate applicable water quality standards in navigable waters of the United States, or

(b) Cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

§ 110.5 Discharge prohibited.

As provided in section 311(b)(3) of the Federal Act, no person shall discharge or cause or permit to be discharged into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone any oil, in harmful quantities as determined in §§ 110.3 and 110.4 except as the same may be permitted in the contiguous zone under Article IV of the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended.

§ 110.6 Exception for vessel engines.

For purposes of section 311(b) of the Federal Act, discharges of oil from a properly functioning vessel engine are not deemed to be harmful; but such oil accumulated in a vessel's bilges shall not be so exempt.

§ 110.7 Dispersants.

Addition of dispersants or emulsifiers to oil to be discharged which would circumvent the provisions of this part is prohibited.

§ 110.8 Demonstration projects.

Notwithstanding any other provisions of this part, the Administrator of the Environmental Protection Agency may permit the discharge of oil into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone, in connection with research, demonstration projects, or studies relating to the prevention, control, or abatement of oil pollution.

§ 110.9 Notice.

Any person in charge of any vessel or onshore or offshore facility shall, as soon as he has knowledge of any discharge of oil from such vessel or facility in violation of § 110.5, immediately notify the appropriate agency of such discharge in

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accordance with such procedures as the Secretary of Transportation may prescribe. The procedures for such notice are set forth in U.S. Coast Guard regulations, 33 CFR Part 153, Subpart B, 41 FR 12628 et seq. (March 25, 1976).

ENVIRONMENTAL PROTECTION AGENCY REGULATIONS ON OIL POLLUTION PREVENTION

(40 CFR 112; 38 FR 34164, December 11, 1973; Amended by 39 FR 31602, August 29, 1974; 41 FR 12657, March 26, 1976)

PART 112—OIL POLLUTION PREVENTION

Non-transportation Related Onshore and Offshore Facilities

AUTHORITY: Secs. 311(j) (1) (C), 311(j) (2), 501(a), Federal Water Pollution Control Act (Sec. 2, Pub. L. 92–500, 86 Stat. 816 et seq. (33 U.S.C. 1251 et seq.)); Sec. 4(b), Pub. L. 92–500, 86 Stat. 897; 5 U.S.C. Reorg. Plan of 1970 No. 3 (1970), 35 FR 15623, 3 CFR 1966–1970 Comp.; E.O. 11735, 38 FR 21243, 3 CFR.

§ 112.1 General applicability.

(a) This part establishes procedures, methods and equipment and other requirements for equipment to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines.

(b) Except as provided in paragraph (d) of this section, this part applies to owners or operators of non-transportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing or consuming oil and oil products, and which, due to their location, could reasonably be expected to discharge oil in harmful quantities, as defined in Part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines.

(c) As provided in sec. 313 (86 Stat. 875) departments, agencies, and instrumentalities of the Federal government are subject to these regulations to the same extent as any person, except for the provisions of § 112.6.

(d) This part does not apply to:

(1) Facilities, equipment or operations which are not subject to the jurisdiction of the Environmental Protection Agency, as follows:

(A) onshore and offshore facilities, which, due to their location, could not reasonably be expected to discharge oil into or upon the navigable waters of the United States or adjoining shorelines. This determination shall be based solely upon a consideration of the geographical, locational aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and shall exclude consideration of manmade features such as dikes, equipment or other structures which may serve to restrain, hinder, contain, or otherwise prevent a discharge of oil from reaching navigable waters of the United States or adjoining shorelines; and

(B) equipment or operations of vessels or transportation-related onshore and offshore facilities which are subject to authority and control of the Department of Transportation, as defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated November 24, 1971, 36 FR 24000.

(2) those facilities which, although otherwise subject to the jurisdiction of the Environmental Protection Agency, meet both of the following requirements:

(A) the underground buried storage capacity of the facility is 42,000 gallons or less of oil, and

(B) the storage capacity, which is not buried, of the facility is 1,320 gallons or less of oil, provided no single container has a capacity in excess of 660 gallons.

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(e) This part provides for the preparation and implementation of Spill Prevention Control and Countermeasure Plans prepared in accordance with § 112.7, designed to complement existing laws, regulations, rules, standards, policies and procedures pertaining to safety standards, fire prevention and pollution prevention rules, so as to form a comprehensive balanced Federal/State spill prevention program to minimize the potential for oil discharges. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State or local laws.

§ 112.2 Definitions.

For the purposes of this part:

(a) "Oil" means oil of any kind or in any form, including, but not limited to petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes other than dredged spoil.

(b) "Discharge" includes but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping. For purposes of this part, the term "discharge" shall not include any discharge of oil which is authorized by a permit issued pursuant to Section 13 of the River and Harbor Act of 1899 (30 Stat. 1121, 33 U.S.C. 407), or Sections 402 or 405 of the FWPCA Amendments of 1972 (86 Stat. 816 et seq., 33 U.S.C. 1251 et seq.).

(c) "Onshore facility" means any facility of any kind located in, on, or under any land within the United States, other than submerged lands, which is not a transportation-related facility.

(d) "Offshore facility" means any facility of any kind located in, on, or under any of the navigable waters of the United States, which is not a transportation-related facility.

(e) "Owner or operator" means any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated such facility immediately prior to such abandonment.

(f) "Person" includes an individual, firm, corporation, association, and a partnership.

(g) "Regional Administrator", means the Regional Administrator of the Environmental Protection Agency, or his designee, in and for the Region in which the facility is located.

(h) "Transportation-related" and "non-transportation-related" as applied to an onshore or offshore facility, are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated November 24, 1971, 36 FR 24080.

(i) "Spill event" means a discharge of oil into or upon the navigable waters of the United States or adjoining shorelines in harmful quantities, as defined at 40 CFR Part 110.

(j) "United States" means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Canal Zone, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands.

(k) The term "navigable waters" of the United States means "navigable waters" as defined in section 502(7) of the FWPCA, and includes:

(1) all navigable waters of the United States, as defined in judicial decisions prior to passage of the 1972 Amendments to the FWPCA (Pub. L. 92-500), and tributaries of such waters;

(2) interstate waters;

(3) intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and

(4) intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

(l) "Vessel" means every description of watercraft or other artificial contriv-

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ance used, or capable of being used as a means of transportation on water, other than a public vessel.

§ 112.3 Requirements for preparation and implementation of Spill Prevention Control and Countermeasure Plans.

(a) Owners or operators of onshore and offshore facilities in operation on or before the effective date of this part that have discharged or, due to their location, could reasonably be expected to discharge oil in harmful quantities, as defined in 40 CFR Part 110, into or upon the navigable waters of the United States or adjoining shorelines, shall prepare a Spill Prevention Control and Countermeasure Plan (hereinafter "SPCC Plan"), in writing and in accordance with section 112.7. Except as provided for in paragraph (f) of this section, such SPCC Plan shall be prepared within six months after the effective date of this part and shall be fully implemented as soon as possible, but not later than one year after the effective date of this part.

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(b) Owners or operators of onshore and offshore facilities that become operational after the effective date of this part, and that have discharged or could reasonably be expected to discharge oil in harmful quantities, as defined in 40 CFR Part 110, into or upon the navigable waters of the United States or adjoining shorelines, shall prepare an SPCC Plan in accordance with § 112.7. Except as provided for in paragraph (f) of this section, such SPCC Plan shall be prepared within six months after the date such facility begins operations and shall be fully implemented as soon as possible, but not later than one year after such facility begins operations.

(c) Owners or operators of onshore and offshore mobile or portable facilities, such as onshore drilling or workover rigs, barge mounted offshore drilling or workover rigs, and portable fueling facilities shall prepare and implement an SPCC Plan as required by paragraphs (a), (b) and (d) of this section. The owners or operators of such facility need not prepare a new SPCC Plan each time the facility is moved to a new site. The SPCC Plan may be a general plan, prepared in accordance with section 112.7, using good engineering practice. When the mobile or portable facility is moved, it must be located and installed using the spill prevention practices outlined in the SPCC Plan for the facility. No mobile or portable facility subject to this regulation shall operate unless the SPCC Plan has been implemented. The SPCC Plan shall only apply while the facility is in a fixed (non-transportation) operating mode.

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(d) No SPCC Plan shall be effective to satisfy the requirements of this part unless it has been reviewed by a Registered Professional Engineer and certified to by such Professional Engineer. By means of this certification the engineer, having examined the facility and being familiar with the provisions of this part, shall attest that the SPCC Plan has been prepared in accordance with good engineering practices. Such certification shall in no way relieve the owner or operator of an onshore or offshore facility of his duty to prepare and fully implement such Plan in accordance with § 112.7, as required by paragraphs (a), (b) and (c) of this section.

(e) Owners or operators of a facility for which an SPCC Plan is required pursuant to paragraphs (a), (b) or (c) of this section shall maintain a complete copy of the Plan at such facility if the facility is normally attended at least 8 hours per day, or at the nearest field office if the facility is not so attended, and shall make such Plan available to the Regional Administrator for on-site review during normal working hours.

(f) Extensions of time.

(1) The Regional Administrator may authorize an extension of time for the preparation and full implementation of an SPCC Plan beyond the time permitted for the preparation and implementation of an SPCC Plan pursuant to paragraphs (a), (b) or (c) of this section where he finds that the owner or operator of a facility subject to paragraphs (a), (b) or (c) of this section cannot fully comply with the requirements of this part as a result of either nonavailability of qualified personnel, or delays in construction or equipment delivery beyond the control and without the fault of such owner or operator or their respective agents or employees.

(2) Any owner or operator seeking an extension of time pursuant to paragraph (f)(1) of this section may submit a letter of request to the Regional Administrator. Such letter shall include:

(i) A complete copy of the SPCC Plan, if completed;

(ii) A full explanation of the cause for any such delay and the specific aspects of the SPCC Plan affected by the delay;

(iii) A full discussion of actions being taken or contemplated to minimize or mitigate such delay;

(iv) A proposed time schedule for the implementation of any corrective actions being taken or contemplated, including interim dates for completion of tests or studies, installation and operation of any necessary equipment or other preventive measures.

In addition, such owner or operator may present additional oral or written statements in support of his letter of request.

(3) The submission of a letter of request for extension of time pursuant to paragraph (f)(2) of this section shall in no way relieve the owner or operator from his obligation to comply with the requirements of § 112.3 (a), (b) or (c). Where an extension of time is authorized by the Regional Administrator for particular equipment or other specific aspects of the SPCC Plan, such extension shall in no way affect the owner's or operator's obligation to comply with the requirements of § 112.3 (a), (b) or (c) with respect to other equipment or other specific aspects of the SPCC Plan for which an extension of time has not been expressly authorized.

§ 112.4 Amendment of SPCC Plans by Regional Administrator.

(a) Notwithstanding compliance with § 112.3, whenever a facility subject to § 112.3 (a), (b) or (c) has: Discharged more than 1,000 U.S. gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in a single spill event, or discharged oil in harmful quantities, as defined in 40 CFR Part 110, into or upon the navigable waters of the United States or adjoining shorelines in two spill events, reportable under section 311(b)(5) of the FWPCA, occurring within any twelve month period, the owner or operator of such facility shall submit to the Regional Administrator, within 60 days from the time such facility becomes subject to this section, the following:

(1) Name of the facility;

(2) Name(s) of the owner or operator of the facility;

(3) Location of the facility;

(4) Date and year of initial facility operation;

(5) Maximum storage or handling capacity of the facility and normal daily throughput;

(6) Description of the facility, including maps, flow diagrams, and topographical maps;

(7) A complete copy of the SPCC Plan with any amendments;

(8) The cause(s) of such spill, including a failure analysis of system or subsystem in which the failure occurred;

(9) The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs and/or replacements;

(10) Additional preventive measures taken or contemplated to minimize the possibility of recurrence;

(11) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or spill event.

(b) Section 112.4 shall not apply until the expiration of the time permitted for the preparation and implementation of an SPCC Plan pursuant to § 112.3 (a), (b), (c) and (f).

(c) A complete copy of all information provided to the Regional Administrator pursuant to paragraph (a) of this section shall be sent at the same time to the State agency in charge of water pollution control activities in and for the State in which the facility is located. Upon receipt of such information such State agency may conduct a review and make recommendations to the Regional Administrator as to further procedures, methods, equipment and other requirements for equipment necessary to prevent and to contain discharges of oil from such facility.

(d) After review of the SPCC Plan for a facility subject to paragraph (a) of this section, together with all other information submitted by the owner or operator of such facility, and by the State agency under paragraph (c) of this section, the Regional Administrator may require the owner or operator of such facility to amend the SPCC Plan if he finds that the Plan does not meet the requirements of this part or that the amendment of the Plan is necessary to prevent and to contain discharges of oil from such facility.

(e) When the Regional Administrator proposes to require an amendment to the SPCC Plan, he shall notify the facility operator by certified mail addressed to, or by personal delivery to, the facility owner or operator, that he proposes to require an amendment to the Plan, and shall specify the terms of such amendment. If the facility owner or operator is a corporation, a copy of such notice shall also be mailed to the registered agent, if any, of such corporation in the State where such facility is located. Within 30 days from receipt of such notice, the facility owner or operator may submit written information, views, and arguments on the amendment. After considering all relevant material presented, the Regional Administrator shall notify the facility owner or operator of any amendment required or shall rescind the notice. The amendment required by the Regional Administrator shall become part of the Plan 30 days after such notice, unless the Regional Administrator, for good cause, shall specify another effective date. The owner or operator of the facility shall implement the amendment of the Plan as soon as possible, but not later than six months after the amendment becomes part of the Plan, unless the Regional Administrator specifies another date.

(f) An owner or operator may appeal a decision made by the Regional Administrator requiring an amendment to an SPCC Plan. The appeal shall be made to the Administrator of the United States Environmental Protection Agency and must be made in writing within 30 days of receipt of the notice from the Regional Administrator requiring the amendment. A complete copy of the appeal must be sent to the Regional Administrator at the time the appeal is made. The appeal shall contain a clear and concise statement of the issues and points of fact in the case. It may also contain additional information from the owner or operator, or from any other person. The Administrator or his designee may request additional information from the owner or operator, or from any other person. The Administrator or his designee shall render a decision within 60 days of receiving the appeal and shall notify the owner or operator of his decision.

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§ 112.5 Amendment of Spill Prevention Control and Countermeasure Plans by owners or operators.

(a) Owners or operators of facilities subject to § 112.3 (a), (b) or (c) shall amend the SPCC Plan for such facility in accordance with § 112.7 whenever there is a change in facility design, construction, operation or maintenance which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. Such amendments shall be fully implemented as soon as possible, but not later than six months after such change occurs.

(b) Notwithstanding compliance with paragraph (a) of this section, owners and operators of facilities subject to § 112.3 (a), (b) or (c) shall complete a review and evaluation of the SPCC Plan at least once every three years from the date such facility becomes subject to this part. As a result of this review and evaluation, the owner or operator shall amend the SPCC Plan within six months of the review to include more effective prevention and control technology if: (1) Such technology will significantly reduce the likelihood of a spill event from the facility, and (2) if such technology has been field-proven at the time of the review.

(c) No amendment to an SPCC Plan shall be effective to satisfy the requirements of this section unless it has been certified by a Professional Engineer in accordance with § 112.3(d).

§ 112.6 Civil penalties for violation of Oil Pollution Prevention Regulations.

Owners or operators of facilities subject to § 112.3(a), (b) or (c) who violate the requirements of this Part 112 by failing or refusing to comply with any of the provisions of § 112.3, § 112.4 or § 112.5 shall be liable for a civil penalty of not more than $5,000 for each day such violation continues. Civil penalties shall be imposed in accordance with procedures set out in Part 114 of this subchapter D.

§ 112.7 Guidelines for the preparation and implementation of a Spill Prevention Control and Countermeasure Plan.

The SPCC Plan shall be a carefully thought-out plan, prepared in accordance with good engineering practices, and which has the full approval of management at a level with authority to commit the necessary resources. If the plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, these items should be discussed in separate paragraphs, and the details of installation and operational start-up should be explained separately. The complete SPCC Plan shall follow the sequence outlined below, and include a discussion of the facility's conformance with the appropriate guidelines listed:

(a) A facility which has experienced one or more spill events within twelve months prior to the effective date of this part should include a written description of each such spill, corrective action taken and plans for preventing recurrence.

(b) Where experience indicates a reasonable potential for equipment failure (such as tank overflow, rupture, or leakage), the plan should include a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each major type of failure.

(c) Appropriate containment and/or diversionary structures or equipment to prevent discharged oil from reaching a navigable water course should be provided. One of the following preventive systems or its equivalent should be used as a minimum:

(1) Onshore facilities.

(i) Dikes, berms or retaining walls sufficiently impervious to contain spilled oil

(ii) Curbing

(iii) Culverting, gutters or other drainage systems

(iv) Weirs, booms or other barriers

(v) Spill diversion ponds

(vi) Retention ponds

(vii) Sorbent materials

(2) Offshore facilities.

(i) Curbing, drip pans

(ii) Sumps and collection systems

(d) When it is determined that the installation of structures or equipment listed in § 112.7(c) to prevent discharged oil from reaching the navigable waters is not practicable from any onshore or offshore facility, the owner or operator should clearly demonstrate such impracticability and provide the following:

(1) A strong oil spill contingency plan following the provision of 40 CFR Part 109.

(2) A written commitment of manpower, equipment and materials required to expeditiously control and remove any harmful quantity of oil discharged.

(e) In addition to the minimal prevention standards listed under § 112.7 (c), sections of the Plan should include a complete discussion of conformance with the following applicable guidelines, other effective spill prevention and containment procedures (or, if more stringent, with State rules, regulations and guidelines):

(1) *Facility drainage (onshore); (excluding production facilities)*. (i) Drainage from diked storage areas should be restrained by valves or other positive means to prevent a spill or other excessive leakage of oil into the drainage system or inplant effluent treatment system, except where plan systems are designed to handle such leakage. Diked areas may be emptied by pumps or ejectors; however, these should be manually activated and the condition of the accumulation should be examined before starting to be sure no oil will be discharged into the water.

(ii) Flapper-type drain valves should not be used to drain diked areas. Valves used for the drainage of diked areas should, as far as practical, be of manual, open-and-closed design. When plant drainage drains directly into water courses and not into wastewater treatment plants, retained storm water should be inspected as provided in paragraph (e)(2)(iii) (B, C and D) before drainage.

(iii) Plant drainage systems from undiked areas should, if possible, flow into ponds, lagoons or catchment basins, designed to retain oil or return it to the facility. Catchment basins should not be located in areas subject to periodic flooding.

(iv) If plant drainage is not engineered as above, the final discharge of all in-plant ditches should be equipped with a diversion system that could, in

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the event of an uncontrolled spill, return the oil to the plant.

(v) Where drainage waters are treated in more than one treatment unit, natural hydraulic flow should be used. If pump transfer is needed, two "lift" pumps should be provided, and at least one of the pumps should be permanently installed when such treatment is continuous. In any event, whatever techniques are used facility drainage systems should be adequately engineered to prevent oil from reaching navigable waters in the event of equipment failure or human error at the facility.

(2) *Bulk storage tanks (onshore)*; *(excluding production facilities)*. (i) No tank should be used for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature, etc.

(ii) All bulk storage tank installations should be constructed so that a secondary means of containment is provided for the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation. Diked areas should be sufficiently impervious to contain spilled oil. Dikes, containment curbs, and pits are commonly employed for this purpose, but they may not always be appropriate. An alternative system could consist of a complete drainage trench enclosure arranged so that a spill could terminate and be safely confined in an in-plant catchment basin or holding pond.

(iii) Drainage of rainwater from the diked area into a storm drain or an effluent discharge that empties into an open water course, lake, or pond, and bypassing the in-plant treatment system may be acceptable if:

(A) The bypass valve is normally sealed closed.

(B) Inspection of the run-off rain water ensures compliance with applicable water quality standards and will not cause a harmful discharge as defined in 40 CFR 110.

(C) The bypass valve is opened, and resealed following drainage under responsible supervision.

(D) Adequate records are kept of such events.

(iv) Buried metallic storage tanks represent a potential for undetected spills. A new buried installation should be protected from corrosion by coatings, cathodic protection or other effective methods compatible with local soil conditions. Such buried tanks should at least be subjected to regular pressure testing.

(v) Partially buried metallic tanks for the storage of oil should be avoided, unless the buried section of the shell is adequately coated, since partial burial in damp earth can cause rapid corrosion of metallic surfaces, especially at the earth/air interface.

(vi) Aboveground tanks should be subject to periodic integrity testing, taking into account tank design (floating roof, etc.) and using such techniques as hydrostatic testing, visual inspection or a system of non-destructive shell thickness testing. Comparison records should be kept where appropriate, and tank supports and foundations should be included in these inspections. In addition, the outside of the tank should frequently be observed by operating personnel for signs of deterioration, leaks which might cause a spill, or accumulation of oil inside diked areas.

(vii) To control leakage through defective internal heating coils, the following factors should be considered and applied, as appropriate.

(A) The steam return or exhaust lines from internal heating coils which discharge into an open water course should be monitored for contamination, or passed through a settling tank, skimmer, or other separation or retention system.

(B) The feasibility of installing an external heating system should also be considered.

(viii) New and old tank installations should, as far as practical, be fail-safe engineered or updated into a fail-safe engineered installation to avoid spills. Consideration should be given to providing one or more of the following devices:

(A) High liquid level alarms with an audible or visual signal at a constantly manned operation or surveillance station; in smaller plants an audible air vent may suffice.

(B) Considering size and complexity of the facility, high liquid level pump cutoff devices set to stop flow at a predetermined tank content level.

(C) Direct audible or code signal communication between the tank gauger and the pumping station.

(D) A fast response system for determining the liquid level of each bulk storage tank such as digital computers, telepulse, or direct vision gauges or their equivalent.

(E) Liquid level sensing devices should be regularly tested to insure proper operation.

(ix) Plant effluents which are discharged into navigable waters should have disposal facilities observed frequently enough to detect possible system upsets that could cause an oil spill event.

(x) Visible oil leaks which result in a loss of oil from tank seams, gaskets, rivets and bolts sufficiently large to cause the accumulation of oil in diked areas should be promptly corrected.

(xi) Mobile or portable oil storage tanks (onshore) should be positioned or located so as to prevent spilled oil from reaching navigable waters. A secondary means of containment, such as dikes or catchment basins, should be furnished for the largest single compartment or tank. These facilities should be located where they will not be subject to periodic flooding or washout.

(3) *Facility transfer operations, pumping, and in-plant process (onshore)*; *(excluding production facilities)*. (i) Buried piping installations should have a protective wrapping and coating and should be cathodically protected if soil conditions warrant. If a section of buried line is exposed for any reason, it should be carefully examined for deterioration. If corrosion damage is found, additional examination and corrective action should be taken as indicated by the magnitude of the damage. An alternative would be the more frequent use of exposed pipe corridors or galleries.

(ii) When a pipeline is not in service, or in standby service for an extended time the terminal connection at the transfer point should be capped or blank-flanged, and marked as to origin.

(iii) Pipe supports should be properly designed to minimize abrasion and corrosion and allow for expansion and contraction.

(iv) All aboveground valves and pipelines should be subjected to regular examinations by operating personnel at which time the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces should be assessed. In addition, periodic pressure testing may be warranted for piping in areas where facility drainage is such that a failure might lead to a spill event.

(v) Vehicular traffic granted entry into the facility should be warned verbally or by appropriate signs to be sure that the vehicle, because of its size, will not endanger above ground piping.

(4) *Facility tank car and tank truck loading/unloading rack (onshore)*. (i) Tank car and tank truck loading/unloading procedures should meet the minimum requirements and regulation established by the Department of Transportation.

(ii) Where rack area drainage does not flow into a catchment basin or treatment facility designed to handle spills, a quick drainage system should be used for tank truck loading and unloading areas. The containment system should be designed to hold at least maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded in the plant.

(iii) An interlocked warning light or physical barrier system, or warning signs, should be provided in loading/unloading areas to prevent vehicular departure before complete disconnect of flexible or fixed transfer lines.

(iv) Prior to filling and departure of any tank car or tank truck, the lowermost drain and all outlets of such vehicles should be closely examined for leakage, and if necessary, tightened, adjusted, or replaced to prevent liquid leakage while in transit.

(5) *Oil production facilities (onshore)*. (i) *Definition*. An onshore production facility may include all wells, flowlines, separation equipment, storage facilities, gathering lines, and auxiliary non-transportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator.

(ii) *Oil production facility (onshore) drainage*. (A) At tank batteries and central treating stations where an accidental discharge of oil would have a reasonable possibility of reaching navigable waters, the dikes or equivalent required under § 112.7(c)(1) should have drains closed and sealed at all times except when rainwater is being drained. Prior to drainage, the diked area should be inspected as provided in paragraph (e)(2)(iii) (B), C), and (D). Accumulated oil on the rainwater should be picked up and returned to storage or disposed of in accordance with approved methods.

(B) Field drainage ditches, road ditches, and oil traps, sumps or skimmers, if such exist, should be inspected at regularly scheduled intervals for accumulation of oil that may have escaped from small leaks. Any such accumulations should be removed.

(iii) *Oil production facility (onshore) bulk storage tanks*. (A) No tank should be used for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

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(B) All tank battery and central treating plant installations should be provided with a secondary means of containment for the entire contents of the largest single tank if feasible, or alternate systems such as those outlined in § 112.7(c)(1). Drainage from undiked areas should be safely confined in a catchment basin or holding pond.

(C) All tanks containing oil should be visually examined by a competent person for condition and need for maintenance on a scheduled periodic basis. Such examination should include the foundation and supports of tanks that are above the surface of the ground.

(D) New and old tank battery installations should, as far as practical, be fail-safe engineered or updated into a fail-safe engineered installation to prevent spills. Consideration should be given to one or more of the following:

(*1*) Adequate tank capacity to assure that a tank will not overfill should a pumper/gauger be delayed in making his regular rounds.

(*2*) Overflow equalizing lines between tanks so that a full tank can overflow to an adjacent tank.

(*3*) Adequate vacuum protection to prevent tank collapse during a pipeline run.

(*4*) High level sensors to generate and transmit an alarm signal to the computer where facilities are a part of a computer production control system.

(iv) *Facility transfer operations, oil production facility (onshore).* (A) All above ground valves and pipelines should be examined periodically on a scheduled basis for general condition of items such as flange joints, valve glands and bodies, drip pans, pipeline supports, pumping well polish rod stuffing boxes, bleeder and gauge valves.

(B) Salt water (oil field brine) disposal facilities should be examined often, particularly following a sudden change in atmospheric temperature to detect possible system upsets that could cause an oil discharge.

(C) Production facilities should have a program of flowline maintenance to prevent spills from this source. The program should include periodic examinations, corrosion protection, flowline replacement, and adequate records, as appropriate, for the individual facility.

(*6*) *Oil drilling and workover facilities (onshore)* (i) Mobile drilling or workover equipment should be positioned or located so as to prevent spilled oil from reaching navigable waters.

(ii) Depending on the location, catchment basins or diversion structures may be necessary to intercept and contain spills of fuel, crude oil, or oily drilling fluids.

(iii) Before drilling below any casing string or during workover operations, a blowout prevention (BOP) assembly and well control system should be installed that is capable of controlling any well head pressure that is expected to be encountered while that BOP assembly is on the well. Casing and BOP installations should be in accordance with State regulatory agency requirements.

(*7*) *Oil drilling, production, or workover facilities (offshore).* (i) Definition: "An oil drilling, production or workover facility (offshore)" may include all drilling or workover equipment, wells, flowlines, gathering lines, platforms, and auxiliary nontransportation - related equipment and facilities in a single geographical oil or gas field operated by a single operator.

(ii) Oil drainage collection equipment should be used to prevent and control small oil spillage around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and allied equipment. Drains on the facility should be controlled and directed toward a central collection sump or equivalent collection system sufficient to prevent discharges of oil into the navigable waters of the United States. Where drains and sumps are not practicable oil contained in collection equipment should be removed as often as necessary to prevent overflow.

(iii) For facilities employing a sump system, sump and drains should be adequately sized and a spare pump or equivalent method should be available to remove liquid from the sump and assure that oil does not escape. A regular scheduled preventive maintenance inspection and testing program should be employed to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(iv) In areas where separators and treaters are equipped with dump valves whose predominant mode of failure is in the closed position and pollution risk is high, the facility should be specially equipped to prevent the escape of oil. This could be accomplished by extending the flare line to a diked area if the separator is near shore, equipping it with a high liquid level sensor that will automatically shut-in wells producing to the separator, parallel redundant dump valves, or other feasible alternatives to prevent oil discharges.

(v) Atmospheric storage or surge tanks should be equipped with high liquid level sensing devices or other acceptable alternatives to prevent oil discharges.

(vi) Pressure tanks should be equipped with high and low pressure sensing devices to activate an alarm and/or control the flow or other acceptable alternatives to prevent oil discharges.

(vii) Tanks should be equipped with suitable corrosion protection.

(viii) A written procedure for inspecting and testing pollution prevention equipment and systems should be prepared and maintained at the facility. Such procedures should be included as part of the SPCC Plan.

(ix) Testing and inspection of the pollution prevention equipment and systems at the facility should be conducted by the owner or operator on a scheduled periodic basis commensurate with the complexity, conditions and circumstances of the facility or other appropriate regulations.

(x) Surface and subsurface well shut-in valves and devices in use at the facility should be sufficiently described to determine method of activation or control, e.g., pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms. Detailed records for each well, while not necessarily part of the plan should be kept by the owner or operator.

(xi) Before drilling below any casing string, and during workover operations a blowout preventer (BOP) assembly and well control system should be installed that is capable of controlling any well-head pressure that is expected to be encountered while that BOP assembly is on the well. Casing and BOP installations should be in accordance with State regulatory agency requirements.

(xii) Extraordinary well control measures should be provided should emergency conditions, including fire, loss of control and other abnormal conditions, occur. The degree of control system redundancy should vary with hazard exposure and probable consequences of failure. It is recommended that surface shut-in systems have redundant or "fail close" valving. Subsurface safety valves may not be needed in producing wells that will not flow but should be installed as required by applicable State regulations.

(xiii) In order that there will be no misunderstanding of joint and separate duties and obligations to perform work in a safe and pollution free manner, written instructions should be prepared by the owner or operator for contractors and subcontractors to follow whenever contract activities include servicing a well or systems appurtenant to a well or pressure vessel. Such instructions and procedures should be maintained at the offshore production facility. Under certain circumstances and conditions such contractor activities may require the presence at the facility of an authorized representative of the owner or operator who would intervene when necessary to prevent a spill event.

(xiv) All manifolds (headers) should be equipped with check valves on individual flowlines.

(xv) If the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves associated with that individual flowline, the flowline should be equipped with a high pressure sensing device and shutin valve at the wellhead unless provided with a pressure relief system to prevent over pressuring.

(xvi) All pipelines appurtenant to the facility should be protected from corrosion. Methods used, such as protective coatings or cathodic protection, should be discussed.

(xvii) Sub-marine pipelines appurtenant to the facility should be adequately protected against environmental stresses and other activities such as fishing operations.

(xviii) Sub-marine pipelines appurtenant to the facility should be in good

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operating condition at all times and inspected on a scheduled periodic basis for failures. Such inspections should be documented and maintained at the facility.

(8) *Inspections and records.* Inspections required by this part should be in accordance with written procedures developed for the facility by the owner or operator. These written procedures and a record of the inspections, signed by the appropriate supervisor or inspector, should be made part of the SPCC Plan and maintained for a period of three years.

(9) *Security (excluding oil production facilities).* (i) All plants handling, processing, and storing oil should be fully fenced, and entrance gates should be locked and/or guarded when the plant is not in production or is unattended.

(ii) The master flow and drain valves and any other valves that will permit direct outward flow of the tank's content to the surface should be securely locked in the closed position when in non-operating or non-standby status.

(iii) The starter control on all oil pumps should be locked in the "off" position or located at a site accessible only to authorized personnel when the pumps are in a non-operating or non-standby status.

(iv) The loading/unloading connections of oil pipelines should be securely capped or blank-flanged when not in service or standby service for an extended time. This security practice should also apply to pipelines that are emptied of liquid content either by draining or by inert gas pressure.

(v) Facility lighting should be commensurate with the type and location of the facility. Consideration should be given to: (A) Discovery of spills occurring during hours of darkness, both by operating personnel, if present, and by non-operating personnel (the general public, local police, etc.) and (B) prevention of spills occurring through acts of vandalism.

(10) *Personnel, training and spill prevention procedures.* (i) Owners or operators are responsible for properly instructing their personnel in the operation and maintenance of equipment to prevent the discharges of oil and applicable pollution control laws, rules and regulations.

(ii) Each applicable facility should have a designated person who is accountable for oil spill prevention and who reports to line management.

(iii) Owners or operators should schedule and conduct spill prevention briefings for their operating personnel at intervals frequent enough to assure adequate understanding of the SPCC Plan for that facility. Such briefings should highlight and describe known spill events or failures, malfunctioning components, and recently developed precautionary measures.

APPENDIX

Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency.

SECTION II—DEFINITIONS

The Environmental Protection Agency and the Department of Transportation agree that for the purposes of Executive Order 11548, the term:

(1) "Non-transportation-related onshore and offshore facilities" means:

(A) Fixed onshore and offshore oil well drilling facilities including all equipment and appurtenances related thereto used in drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(B) Mobile onshore and offshore oil well drilling platforms, barges, trucks, or other mobile facilities including all equipment and appurtenances related thereto when such mobile facilities are fixed in position for the purpose of drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(C) Fixed onshore and offshore oil production structures, platforms, derricks, and rigs including all equipment and appurtenances related thereto, as well as completed wells and the wellhead separators, oil separators, and storage facilities used in the production of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(D) Mobile onshore and offshore oil production facilities including all equipment and appurtenances related thereto as well as completed wells and wellhead equipment, piping from wellheads to oil separators, oil separators, and storage facilities used in the production of oil when such mobile facilities are fixed in position for the purpose of oil production operations, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(E) Oil refining facilities including all equipment and appurtenances related thereto as well as in-plant processing units, storage units, piping, drainage systems and waste treatment units used in the refining of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(F) Oil storage facilities including all equipment and appurtenances related thereto as well as fixed bulk plant storage, terminal oil storage facilities, consumer storage, pumps and drainage systems used in the storage of oil, but excluding inline or breakout storage tanks needed for the continuous operation of a pipeline system and any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(G) Industrial, commercial, agricultural *or public facilities* which use and store oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(H) Waste treatment facilities including in-plant pipelines, effluent discharge lines, and storage tanks, but excluding waste treatment facilities located on vessels and terminal storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels and associated systems used for off-loading vessels.

(I) Loading racks, transfer hoses, loading arms and other equipment which are appurtenant to a nontransportation-related facility or terminal facility and which are used to transfer oil in bulk to or from highway vehicles or railroad cars.

(J) Highway vehicles and railroad cars which are used for the transport of oil exclusively within the confines of a nontransportation-related facility and which are not intended to transport oil in interstate or intrastate commerce.

(K) Pipeline systems which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce, but excluding pipeline systems used to transfer oil in bulk to or from a vessel.

(2) "transportation-related onshore and offshore facilities" means:

(A) Onshore and offshore terminal facilities including transfer hoses, loading arms and other equipment and appurtenances used for the purpose of handling or transferring oil in bulk to or from a vessel as well as storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels, but excluding terminal waste treatment facilities and terminal oil storage facilities.

(B) Transfer hoses, loading arms and other equipment appurtenant to a non-transportation-related facility which is used to transfer oil in bulk to or from a vessel.

(C) Interstate and intrastate onshore and offshore pipeline systems including pumps and appurtenances related thereto as well as in-line or breakout storage tanks needed for the continuous operation of a pipeline system, and pipelines from onshore and offshore oil production facilities, but excluding onshore and offshore piping from wellheads to oil separators and pipelines which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce or to transfer oil in bulk to or from a vessel.

(D) Highway vehicles and railroad cars which are used for the transport of oil in interstate or intrastate commerce and the equipment and appurtenances related thereto, and equipment used for the fueling of locomotive units, as well as the rights-of-way on which they operate. Excluded are highway vehicles and railroad cars and motive power used exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended for use in interstate or intrastate commerce.

EPA INTERIM REGULATIONS ON CIVIL PENALTIES FOR VIOLATIONS OF OIL POLLUTION PREVENTION REGULATIONS

(40 CFR 114; 39 FR 31602, August 29, 1974)

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

[FRL 230-3]

PART 114—CIVIL PENALTIES FOR VIOLATION OF OIL POLLUTION PREVENTION REGULATIONS

Interim Regulation

AUTHORITY: Secs. 311(j), 501(a), Pub. Law 92-500, 86 Stat. 868, 885 (33 U.S.C. 1321(j), 1361(a)).

NON-TRANSPORTATION RELATED ONSHORE AND OFFSHORE FACILITIES

§ 114.1 General applicability.

Owners or operators of facilities subject to § 112.3 (a), (b) or (c) of this subchapter who violate the requirements of Part 112 of this Subchapter D by failing or refusing to comply with any of the provisions of § 112.3, 112.4, or 112.5 of this subchapter shall be liable for a civil penalty of not more than $5,000 for each day such violation continues. Civil penalties shall be assessed and compromised in accordance with this Part. No penalty shall be assessed until the owner or operator shall have been given notice and an opportunity for hearing in accordance with this Part.

§ 114.2 Violation.

Owners or operators of facilities shall be liable for a civil penalty for noncompliance with the requirements of Part 112 of this subchapter, including but not limited to failure to:

(a) Prepare a Spill Prevention Control and Countermeasure (SPCC) plan in accordance with § 112.3 of this subchapter;

(b) Have a SPCC plan certified by a Registered Professional Engineer as required by § 112.3 of this subchapter;

(c) Implement the SPCC plan as required by § 112.3 of this subchapter;

(d) Submit information after a spill as required by § 112.4 of this subchapter;

(e) Amend plan as required by § 112.4 of this subchapter;

(f) Implement amendment as required by § 112.4 of this subchapter;

(g) Amend plan after change in facility design as required by § 112.6 of this subchapter;

(h) Review plan every three years as required by § 112.5 of this subchapter;

(i) Amend plan after review as required by § 112.5; or

(j) Have amendment certified as required by § 112.5 of this subchapter and implemented.

§ 114.3 Determination of penalty.

(a) In determining the amount of the penalty to be assessed the following factors shall be considered:

(1) Gravity of the violation; and

(2) Demonstrated good faith efforts to achieve rapid compliance after notification of a violation.

(b) The amount of the civil penalty to be assessed may be settled by compromise at any stage of the proceedings.

(c) Civil penalties may be assessed by the Regional Administrator where there is no request for a hearing pursuant to § 114.5.

§ 114.4 Notice of Violation.

The Notice of Violation shall be sent to the person charged with a violation and shall specify the:

(a) Date of issuance;

(b) Nature of violation, including the law or regulation that he is charged with violating;

(c) Amount of the maximum penalty;

(d) Amount of the proposed civil penalty;

(e) The right to present written explanations, information or any materials in answer to the charges or in mitigation of the penalty, or bearing on the person's efforts to achieve compliance after notification of the violation;

(f) Manner of the payment of any money which may be paid to the United States;

(g) Right to request a hearing; and

(h) The procedures for requesting a hearing including the right to be represented by counsel.

§ 114.5 Request for hearing.

Within thirty (30) days of the date of receipt of a Notice of Violation, the person named in the Notice may request a hearing by submitting a written request signed by or on behalf of such person by a duly authorized officer, director, agent, or attorney-in-fact, to the Regional Administrator.

(a) Requests for hearings shall:

(1) State the name and address of the person requesting the hearing;

(2) Enclose a copy of the Notice of Violation; and

(3) State with particularity the issues to be raised by such person at the hearing.

(b) After a request for hearing which complies with the requirements of paragraph (a) of this section has been filed, a hearing shall be scheduled for the earliest practicable date.

(c) Extensions of the time for the commencement of the hearing may be granted for good cause shown.

§ 114.6 Presiding Officer.

The hearing shall be conducted by the Presiding Officer. The Regional Administrator may designate any attorney in the Environmnental Protection Agency to act as the Presiding Officer. No person shall serve as a Presiding Officer where he has any prior connection with the case including without limitation the performance of investigative or prosecuting functions or any other such functions. The Presiding Officer appointed shall have the full authority to conduct the hearing, decide issues and to assess a civil penalty as appropriate.

§ 114.7 Consolidation.

The Presiding Officer may, in his discretion, order consolidation of any hearings held under this Part and arising within one Region whenever he determines that consolidation will expedite or simplify the consideration of the issues presented. The Administrator may, in his discretion, order consolidation, and designate one Region to be responsible for the conduct of any hearings held under this Part which arise in different Regions whenever he determines that consolidation will expedite or simplify the consideration of the issues presented. Consolidation shall not affect the right of any person to raise issues that could have been raised if consolidation had not occurred. At the conclusion of the hearing the Presiding Officer shall render a separate decision for each separate civil penalty case.

§ 114.8 Prehearing conference.

The Presiding Officer may hold one or more prehearing conferences and may issue a hearing agenda which may include, without limitation, decisions with regard to any or all the following:

(a) Stipulations and admissions;

(b) Disputed issues of fact;

(c) hearing procedures including submission of oral or written testimony and the time allotted for oral arguments; and

(d) any other matter which may expedite the hearing or aid in disposition of any issues raised therein.

§ 114.9 Conduct of hearing.

The hearing shall be held in the general location of the facility where the alleged violation occurred or as agreed to by EPA and the person charged. The

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Presiding Officer shall have the duty to conduct a fair and impartial hearing, to take action to avoid unnecessary delay in the disposition of proceedings, and to maintain order. The person charged with the violation may offer relevant facts, statements, explanations, and other items which such person feels should be considered in defense to the charges, bearing on the person's efforts to achieve compliance after notification of the violation or which may bear upon the penalty to be assessed. The EPA or other appropriate Agency personnel shall have the opportunity to offer facts, statements, explanations and other items including testimony of other appropriate Agencies personnel in order for the Presiding Officer to be fully informed. In the event the matter cannot be resolved by settlement the person charged with the violation shall be informed in writing, of the decision of the Presiding Officer and shall be advised of his right to appeal.

§ 114.10 Decision.

Within thirty (30) days after the conclusion of the hearings, the Presiding Officer shall issue findings with respect to the matter, including, where appropriate to the amount of the civil penalty. In assessing the civil penalty the Presiding Officer shall consider the factors set forth in § 114.3. A copy of the Presiding Officer's decision shall be sent to the person charged in the Notice of Violation. The decision of the Presiding Officer shall become the final decision of the Environmental Protection Agency unless within fifteen (15) days from the date of receipt of such decision, the person assessed the penalty appeals the decision to the Administrator, or unless the Administrator shall have stayed the effectiveness of the decision pending review.

§ 114.11 Appeal to Administrator.

(a) The person assessed a penalty in the Presiding Officer's determination shall have the right to appeal an adverse decision to the Administrator upon filing a written Notice of Appeal in the form required by paragraph (b) of this section within fifteen (15) days of the date the receipt of the Presiding Officer's decision.

(b) The Notice of Appeal shall:

(1) State the name and address of the person filing the Notice of Appeal;

(2) Contain a concise statement of the facts on which the person relies;

(3) Contain a concise statement of the legal basis on which the person relies; and

(4) Contain a concise statement setting forth the action which the person proposed that the Administrator take.

(c) The Administrator may delegate this authority to act in a given case.

(d) The Administrator, after a Notice of Appeal in proper form has been filed, shall render a decision with respect to the appeal promptly. In rendering his decision, the Administrator may adopt, modify, or set aside the decision of the Presiding Officer in any respect and shall include in his decision a concise statement of the basis therefore. The decision of the Administrator on appeal shall be effective when rendered.

APPENDIX B

NONTRANSPORTATION-RELATED FACILITIES

Nontransportation-related facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, or consuming oil, which could reasonably be expected to discharge oil in harmful quantities into waters defined as navigable and which have nonburied aggregate storage capacity greater than 1320 gallons or nonburied storage capacity greater than 660 gallons in a single container, or which have buried storage capacity in excess of 42,000 gallons are subject to 40CFR Part 112 and must have an SPCC Plan. Note that 24 full 55-gallon drums make up 1320 gallons.

"Storage" can include oil production equipment such as separators, heaters, treaters, etc. Therefore, owners and operators of oil production facilities maintain an SPCC program for their facilities which do not have oil storage tanks per se.

The following describes the three major facility categories: (1) Onshore Nonproduction-Related, (2) Onshore Oil/Gas Production and Drilling/Workover, and (3) Offshore Oil/Gas Production and Drilling/Workover. The sections which follow describe some of the technical features of typical facilities which may be encountered by the inspector. There is one major spill prevention area which is common to all of them, and that is secondary containment. Various secondary containment systems are discussed, as are other important spill prevention measures which the inspector should look for.

ONSHORE NONPRODUCTION-RELATED FACILITIES

These facilities include bulk oil storage and distribution (bulk plants and marketing terminals), some service stations, boat marinas, truck terminals, refineries, terminals, oil consumers, and any other facilities not related to oil/gas production.

Bulk oil storage and distribution facilities such as bulk plants frequently fall under the requirements of 40CFR Part 112 and are characteristic of a typical nonproduction facility. An example of a bulk plant is shown in Figure B-1 and consists of:

(a) Loading rack area

(b) Unloading area

(c) Storage tanks -- underground and aboveground

(d) Office area

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(4-76)

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DROPPED HEAD BEGIN SECTIONS HERE

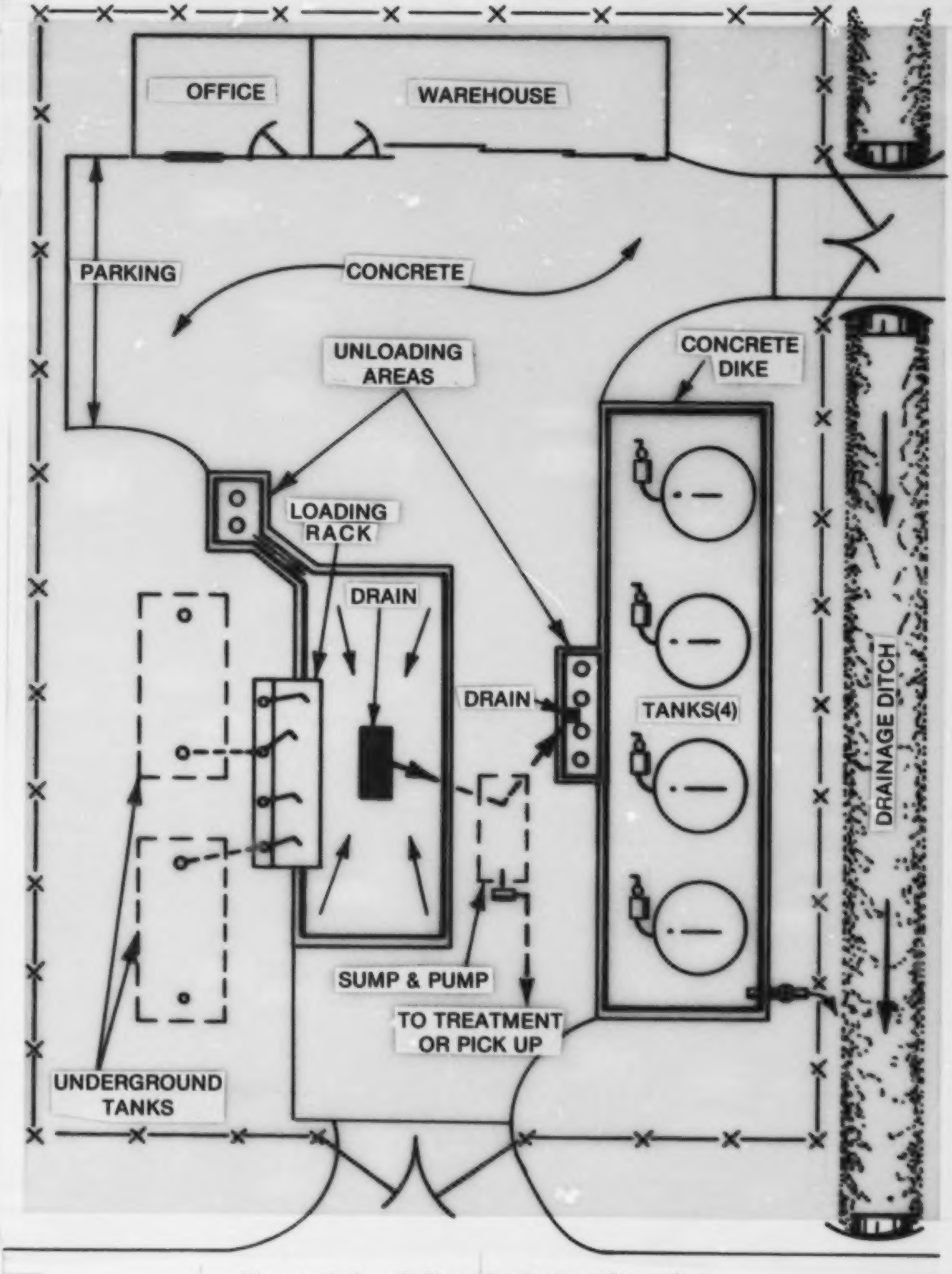
OFFICE
WAREHOUSE
PARKING
CONCRETE
UNLOADING AREAS
CONCRETE DIKE
LOADING RACK
DRAIN
DRAIN
TANKS(4)
DRAINAGE DITCH
SUMP & PUMP
TO TREATMENT OR PICK UP
UNDERGROUND TANKS

Figure B-1. Bulk oil plant--plan view.

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(e) Warehouse (used for storing lube oil and other products)

(f) Truck parking

(g) Pumps, valves, piping

These components are interrelated operationally and the entire facility should therefore be viewed as a system. Even the office area, although not a source of oil spills, is related to the loading rack area, tanks, etc., and thus may be a human factor in preventing a spill in these areas. Also, there are different spill prevention approaches and these may vary from a number of individual spill prevention structures to a single structure or piece of equipment which can handle the entire facility. Terrain, drainage, existing facility design, operational characteristics, etc. all impact the final optimum spill prevention design. It is therefore appropriate to understand the overall equipment layout and operation of the facility before evaluating the individual solutions.

For example, a loading area may not, by itself, have any spill containment and the tanks by themselves do not have any containment, but the runoff from the facility may flow into a catchment basin which is under the jurisdiction of the facility. With proper monitoring and control of the basin, this could be a satisfactory solution. The inspector needs to be careful to not impose requirements upon the owner of the facility which exceed the minimum as required by the regulation. This is true for all operators, from the wealthiest to the poorest. There are economically viable solutions to all problem situations. If the facility has suffered a triggering spill, the Regional Administrator may require an amendment necessary to control spills and protect the environment.

The Loading Rack Area

This area is used to load oil products (diesel fuel, heating oil, gasoline, etc.) into tank trucks, and due to its frequent use is very susceptible to oil spillage. Since most spills are caused by human error, it is recommended that the following preventive measures be taken:

- Electric controls for pumps should either be locked individually or locked within a cabinet or behind a locked door to prevent the pumps from being turned on by unauthorized persons.

- Warning signs or obstructions should be used to help prevent trucks from driving away while the loading hose is connected.

- Instructions need to specify that loading will be accomplished only while an operator is in attendance at the loading rack.

It must be realized that in spite of these controls, accidents will still occur. Therefore, secondary containment must be provided so that a spill from that area will not leave the property, even in adverse weather. Two types of containment systems are frequently employed: a quick drainage system or diversionary structure which diverts flow to a sump or oil/water separator; or a

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dike, catchment basin, or containment area. There are other containment configurations, but most of them are variations in arrangement rather than basic function. In all cases, the containment volume must be of sufficient size to hold the largest compartment of the truck which is being loaded, which will usually vary from 300 to 1200 gallons. The two types of systems are described in the following paragraphs.

Quick Drainage System--

A quick drainage system is frequently employed on new installations where it can be built in at the outset. A typical system is shown in Figure B-2 that shows how runoff from a loading rack will be contained within a curbed area, which will then divert the flow to drains which are in turn connected to an

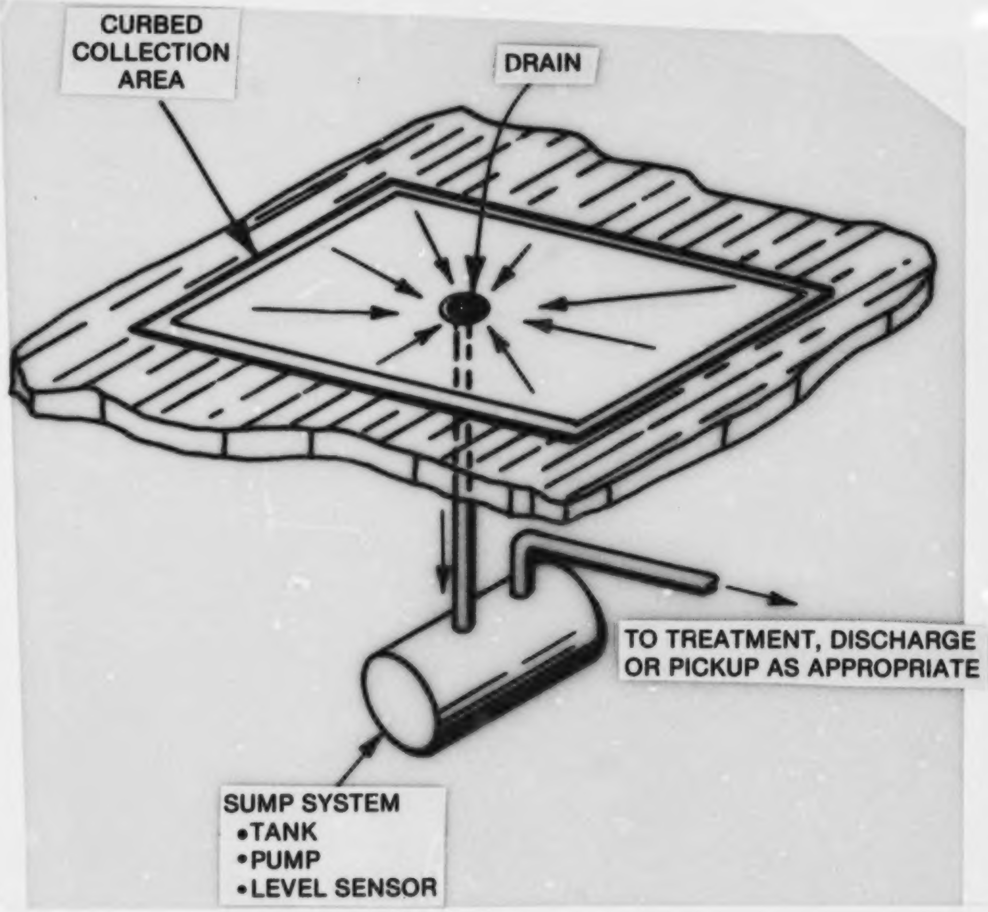
CURBED COLLECTION AREA
DRAIN
TO TREATMENT, DISCHARGE OR PICKUP AS APPROPRIATE
SUMP SYSTEM
•TANK
•PUMP
•LEVEL SENSOR

Figure B-2. Quick drainage system.

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underground tank, or sump. The underground tank has a volume of sufficient size to contain the largest compartment of the operator's truck. The oil collected in the sump can be collected and disposed of properly.

This system is rather elaborate, and due to terrain it may be mandatory, but it does have advantages for the operator, e.g., the system is clean, is easily maintained, and takes a minimum of aboveground space, which may be quite valuable. A refinement of this system is to have a roof constructed over the curbed area which keeps storm runoff out of the collection sump.

Diversionary Structures--

Diversionary structures are any structures which divert flow to another location where the spilled oil can be collected, contained, and removed prior to the escape of oil from the facility. An example of a diversionary structure is shown in Figure B-3. In this case it was impractical to build an underground collection system; therefore the rack loading site was graded and curbed to force the runoff into a diked area which was several feet lower in elevation and was also used to contain the storage tanks. Note that the drain valve must be kept locked closed.

Figure B-4 shows another configuration whereby runoff from the loading area (which is inclined) is collected and diverted by gravity to an underground pipe. This proved beneficial to the operator because the installation was rather simple and a minimum of downtime was needed for construction.

Bulk Oil Storage Tanks

Bulk oil storage tanks are another frequent source of oil spills, and occasionally large oil spills. It is mandatory that aboveground tanks have secondary containment in the form of retaining walls, berms, dikes, etc., i.e., any structure which will keep the contents of the largest tank from leaving the owner's property.

A typical method for accomplishing this is to surround the tanks with an earthen dike constructed of selected compactable soil so that it is impervious to oil. It is important that the dimensions of the dike be clearly specified in writing (e.g., "the dike shall have the following minimum inside dimensions: 24 feet by 48 feet by 2 feet high"), or on a drawing. The inspector may have to check the dimensions and dike volume.

Materials used in construction can be almost anything, so long as they are relatively impermeable to oil and are structurally adequate to withstand the hydrostatic forces and the environmental conditions. Material selection and design of the dike/retaining wall should be specified on the plan and not be left up in the air. If a concrete retaining wall is specified, it should be securely anchored to a footing and should have sufficient strength to withstand the full hydrostatic head. Concrete block wall construction is acceptable for low walls, but it is highly susceptible to cracking and usually requires periodic caulking or other refurbishment.

Draining from secondary containment areas is usually accomplished by a pipe which extends through the wall. A positive action (manually operated)

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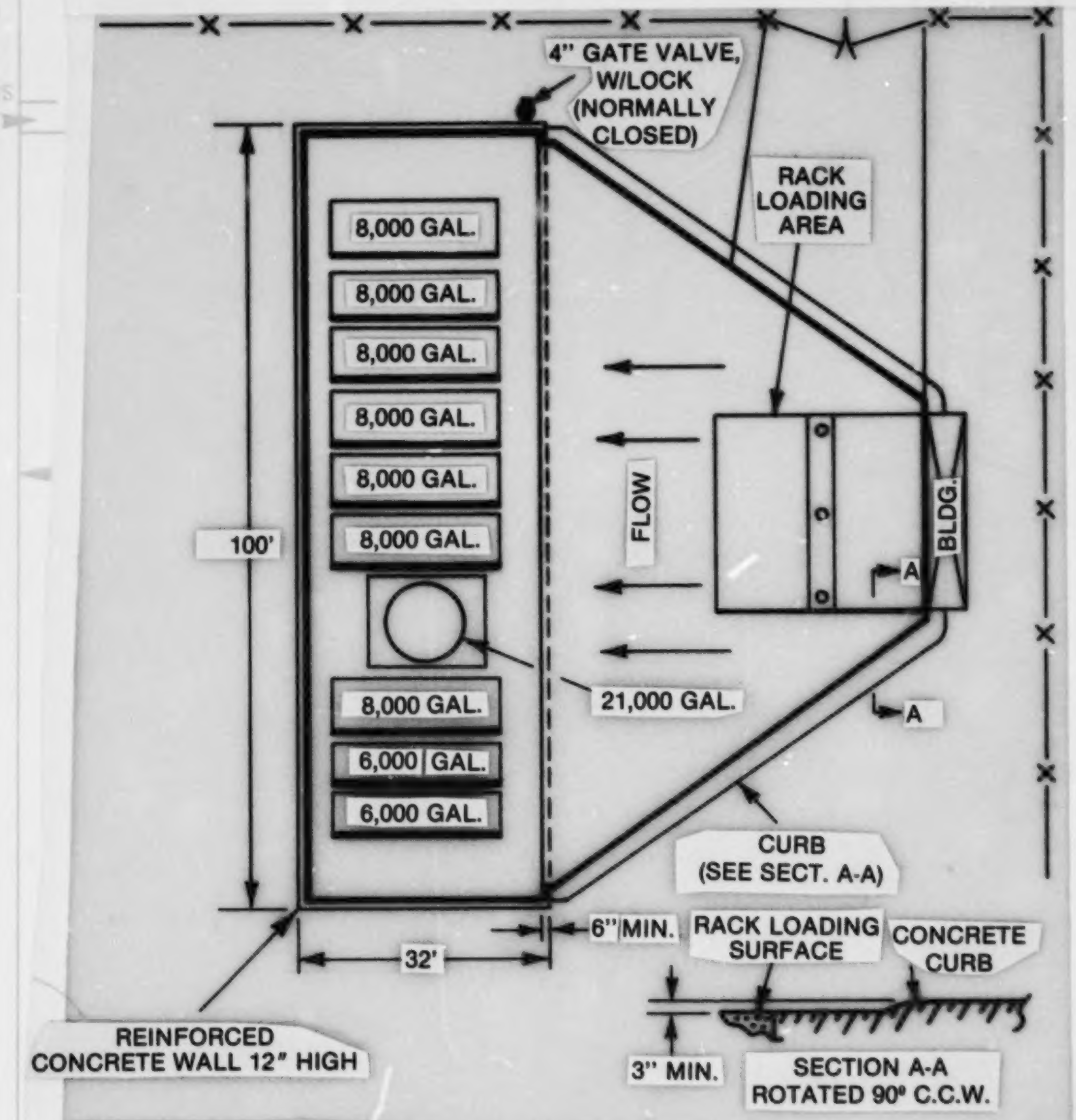
4" GATE VALVE, W/LOCK (NORMALLY CLOSED)
RACK LOADING AREA
8,000 GAL.
8,000 GAL.
8,000 GAL.
8,000 GAL.
8,000 GAL.
8,000 GAL.
100'
FLOW
BLDG.
A
21,000 GAL.
8,000 GAL.
6,000 GAL.
6,000 GAL.
A
CURB (SEE SECT. A-A)
6" MIN.
RACK LOADING SURFACE
CONCRETE CURB
32'
REINFORCED CONCRETE WALL 12" HIGH
3" MIN.
SECTION A-A ROTATED 90° C.C.W.

NOTES:
1. SECONDARY CONTAINMENT IS AREA SHOWN INDICATED BY HEAVY LINE.
2. DIKE AROUND RACK AREA SHALL CAUSE DRAINAGE/SPILLS TO FLOW INTO TANK CONTAINMENT AREA.

Figure B-3. Secondary containment--loading rack and storage tanks.

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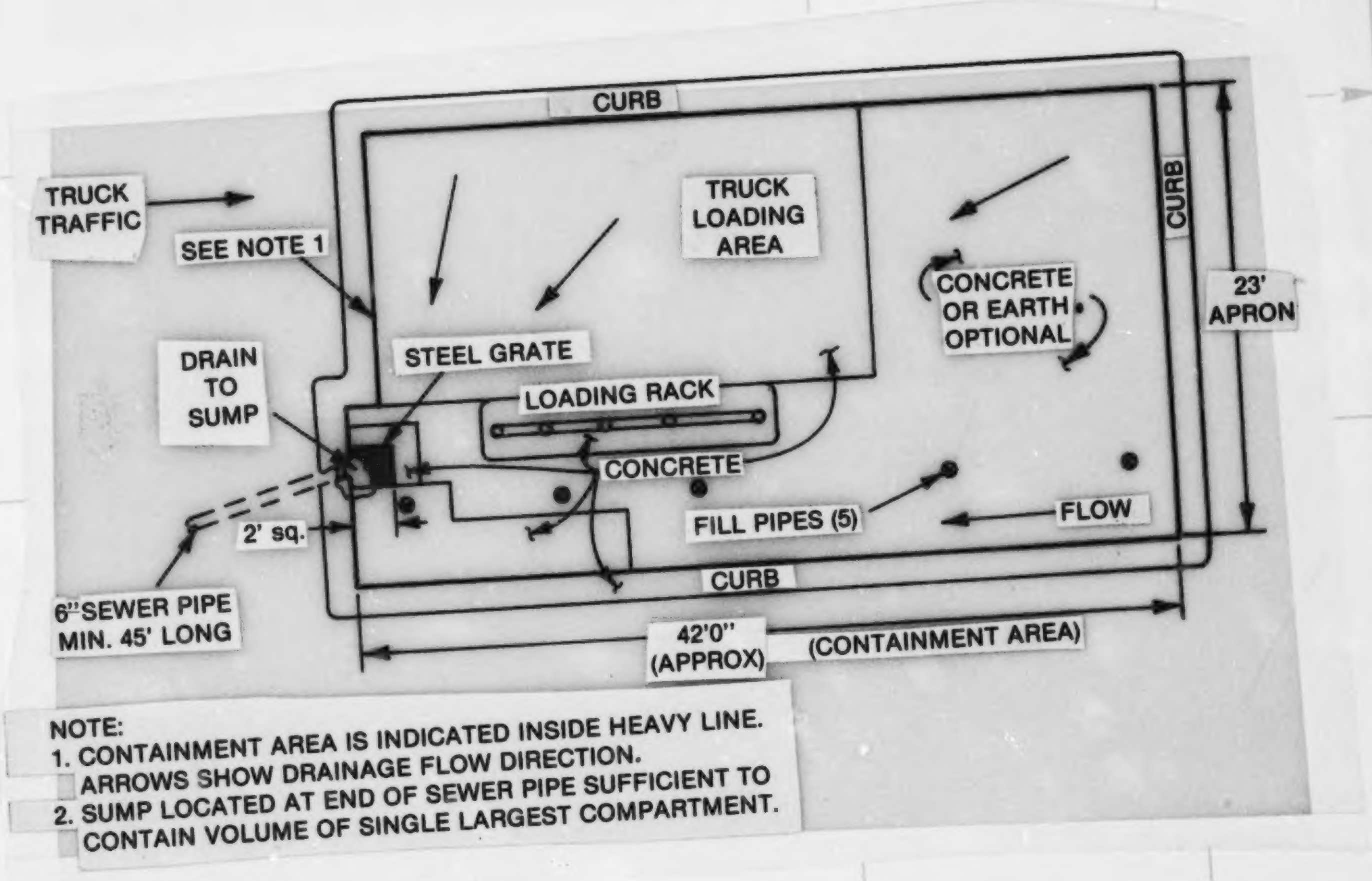
CURB
TRUCK TRAFFIC
SEE NOTE 1
TRUCK LOADING AREA
CURB
CONCRETE OR EARTH OPTIONAL
23' APRON
DRAIN TO SUMP
STEEL GRATE
LOADING RACK
CONCRETE
FILL PIPES (5)
FLOW
2' sq.
CURB
6" SEWER PIPE MIN. 45' LONG
42'0" (APPROX)
(CONTAINMENT AREA)

NOTE:
1. CONTAINMENT AREA IS INDICATED INSIDE HEAVY LINE. ARROWS SHOW DRAINAGE FLOW DIRECTION.
2. SUMP LOCATED AT END OF SEWER PIPE SUFFICIENT TO CONTAIN VOLUME OF SINGLE LARGEST COMPARTMENT.

Figure B-4. Diversionary structure for rack loading area.

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valve permits only water to be drained by an operator who must see to it that no oil is released and keep the valve locked when closed. A suitably rigged red flag should indicate if the valve is open. Other methods of drainage include pumps that discharge fluids into standby tanks, oil/water separators, removal of fluids by vacuum trucks, and specially designed valves that allow water to pass through, but close when a liquid containing hydrocarbons flows through the valve. These hydrocarbon sensing valves are reported to be expensive, subject to fouling by sand and dirt, and are not recommended. In no case should flapper valves be utilized for draining secondary containment areas, since these valves may be subject to sticking open.

The storage tanks themselves need to be in generally good structural condition, i.e., there should be a minimum of corrosion and there should be no leaking at any of the seams or pipe joints Some older riveted tanks and bolt-up tanks experience slight weeping at joints with no danger to the equipment. If the tanks are on supports, the latter should be in sound condition. This also applies to the piping, pipe supports, and related equipment. Foundations should also be examined, if possible, for signs of failure.

Unloading Areas

Unloading areas are used to transfer incoming oil products from a tank truck to the facility, and are usually located not too far from the loading rack. It is therefore frequently possible to combine the secondary containment for the unloading area into the rack loading containment system by grading, drains, curbing, etc. In general, the same spill prevention measures apply as for the rack loading area. However, there is a distinction between the two areas which is quite important, i.e., whereas the rack loading area may be used almost continuously, the unloading area will be used less frequently (generally once or twice a day). Also, if the proper precautions are taken in unloading, the chance of human error is greatly reduced. In many older facilities, or existing facilities which have built-in physical limitations, operational changes can be made which will reduce the likelihood of an oil spill to a low level. Additionally, the operator can provide backup measures to clean up any oil which might spill, e.g., absorbents (such as straw, "Oil-sorb"), vacuum equipment, barriers, etc. However, it should be emphasized that secondary containment should also be utilized in the loading area whenever practicable.

Miscellaneous Spill Prevention Measures

Many facilities have empty drums, waste oil storage, steam cleaning equipment, and other oil-related equipment, which are oil spill hazards. All this equipment should be treated in a manner to allow oil to be collected and disposed of properly. To accomplish this easily, it is frequently advantageous to use a separator on the rack loading area as a collection point. It is important that the operator not discharge oil on the ground in a random fashion, where the next rain will carry it off the facility and into a nearby stream.

Bulk plants and similar facilities should implement periodic formal inspections of all spill prevention equipment and procedures. These inspections

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(4-76)

B-5

should be performed at least once a year. A sample "Inspection Record" is shown in Figure B-5. Informal inspections should be performed daily to weekly of oil/water separators, locks and other security devices related to spill prevention, structures/tanks, and oil accumulations within secondary containment enclosures.

ONSHORE OIL/GAS PRODUCTION AND DRILLING/WORKOVER FACILITIES

Production facilities are also required to have spill prevention measures taken to prevent oil spills from reaching the waters of the U.S. The following paragraphs describe some typical onshore production systems and various spill prevention problems and solutions. As before, the best general solution is to have adequate secondary containment.

Onshore Production System

B-6

A typical onshore production system is shown in Figure B-6 and consists of wells, well heads, separators, stock tanks, flow treater, salt water pit, salt water tank, salt water disposal well, and miscellaneous pumps, valves, etc. There are obviously numerous variations and all of them cannot be described here; however, as in a multi-lease production system (where it is necessary to differentiate the ownership of the oil that is being produced), the systems are usually repetitions of a single system.

With only a few exceptions, large amounts of corrosive salt water are produced along with the oil and gas. In the production process this water tends to partially mix with the oil, forming an emulsion. Treatment of the emulsion is necessary to separate the oil and water so that the oil can be sold and the water disposed of properly. Heat, gravity, and chemicals are used, individually or collectively, to accomplish the separation process.

Holding Pits--

In the older oil fields, settling pits were frequently used to complete the separation process. Fields like this are still in operation but are gradually being phased out, in part due to their being an oil spill hazard. Most states now prohibit the use of pits except on a temporary, emergency basis. It is not too unusual to see a pit with the walls eroded to the point that oil is about to overflow the pit. Therefore, extreme care must be taken by the operators to ensure that the pit has sufficient freeboard (one foot minimum), and that oil/water emulsion is not seeping through the wall of the pit (sometimes seepage, once it has started, can only be stopped by lining the pit). Occasionally, several pits connected in series will be used to improve the separation process and facilitate oil removal. Since they will all contain salt water and varying amounts of oil, all the pits need to be sound. If the pit is used only during "emergencies," then the plan should clearly define what constitutes an emergency, the "normal" condition of the pit or how it will be maintained to keep it ready for use during an emergency, and the minimum safe operating standards during the emergency.

Stock Tanks--

Stock tanks should always be provided with secondary containment with a volume equal to the largest tank plus a reasonable allowance for rainwater.

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ANNUAL INSPECTION RECORD

DATE	EQUIPMENT INSPECTED	INSPECTION METHOD	COMMENTS (CONDITION OF EQUIPMENT OR ACTION TAKEN)	INSPECTOR'S SIGNATURE

Figure B-5. Sample inspection record form.

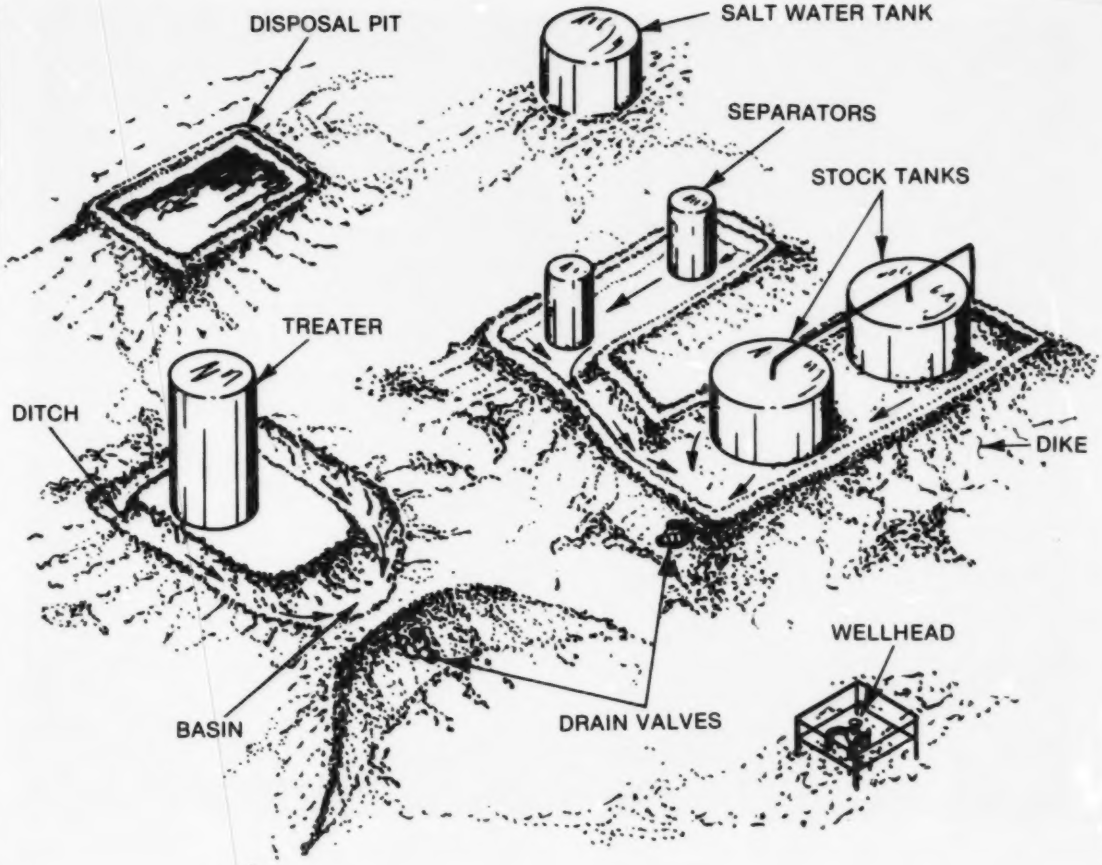
DISPOSAL PIT
SALT WATER TANK
SEPARATORS
STOCK TANKS
TREATER
DITCH
DIKE
WELLHEAD
BASIN
DRAIN VALVES

Figure B-6. Drainage--oil production system.

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Usually, containment is effected by a dike placed around a group of tanks close together. Water is drained from the diked area by opening a valve (Figure B-7) or dropping a "swing pipe" (Figure B-8). The valve and pipe are always locked when closed; when they are open for draining, a suitably rigged red flag should so indicate.

If more than one stock tank is used, the tanks should be interconnected such that if overfilling of a tank occurred, the overflow would be absorbed by the other tanks. This is especially important where oil production rates are high in relation to the capacity of the tanks, and timing of tank gaugings becomes critical. In situations like this, additional safeguards such as high-level sensors/alarms may be needed if it is not practical to increase the tank capacity to prevent overfilling.

Pumping Units--

A reciprocating pumping unit on an oilwell commonly uses a crank and arm which drives a "walking" beam which in turn produces an up-and-down motion to pump oil from down in the well to the surface. The driving rod at the surface is polished such that a stuffing box will seal against the rod and prevent oil from escaping. However, the packing eventually becomes worn and the gland needs to be re-tightened or the packing replaced. Frequently this is neglected and the result is oil leakage which may vary from a quart to several barrels per day. If the pumping unit is near a body of water, a sump system should be installed as an oil spill prevention measure and, as in all cases, the oil seals (gland and packing) shall be maintained to a good operating condition. (Note: The sump can frequently be built in near the stuffing box in a way that will collect mostly oil and very little rainwater.)

Flowlines--

Flowlines (from the wells to the tank battery) are subject to corrosion of both the inside and outside of the pipes. Flowlines are also susceptible to damage from vehicles, earth-moving equipment, farming operations, earth/moving/settling, thermal stresses and vibration. Also, flowlines are, in the majority of cases, not visible. They are either intentionally buried for protection, or they are covered up by nature. Sometimes they are on top of the ground, but shrubs, vines, grass, etc., obscure them. It is therefore in most cases almost impossible to inspect a flowline to determine its condition before a failure occurs.

If an operator has uninspectable flowlines, he should develop and utilize a preventive maintenance program which includes testing, failure prediction analysis, and recommendations for temporary repair and permanent replacement. The operator should make this a priority item and stay ahead of the problem.

Separators and Heater/Treaters--

Separators, heater/treaters, and other process equipment should be provided with secondary containment whenever practical. The means for accomplishing containment are similar to those discussed for "Stock Tanks." It is often possible, if the terrain allows, to divert the flow from the area around the separators to the tank dike area. It may not be advisable to collect oil right at the heater/treater. The flow can often be diverted to another location to avoid creating a fire hazard. Typically, the separators and treaters

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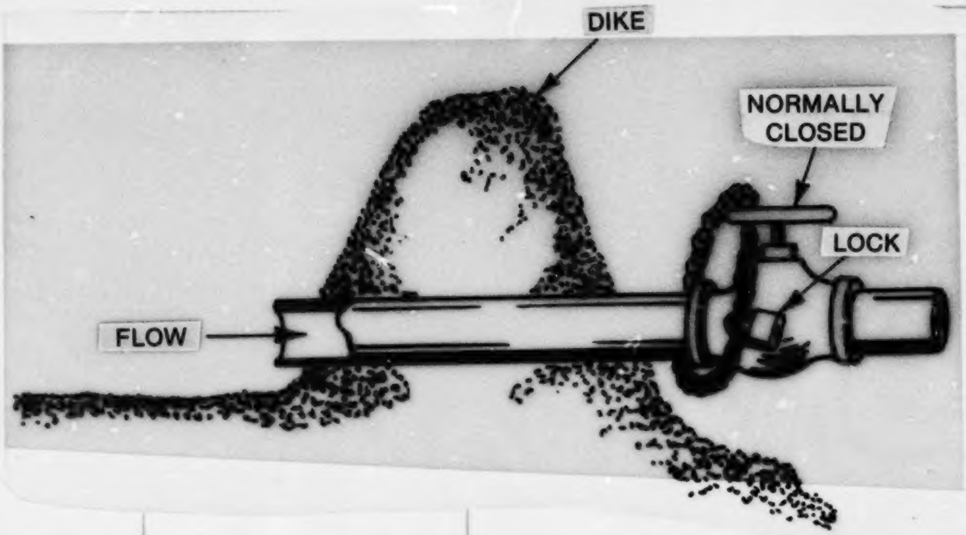
DIKE
NORMALLY CLOSED
LOCK
FLOW

Figure B-7. Drain valve.

6-1/2''
9-1/8''

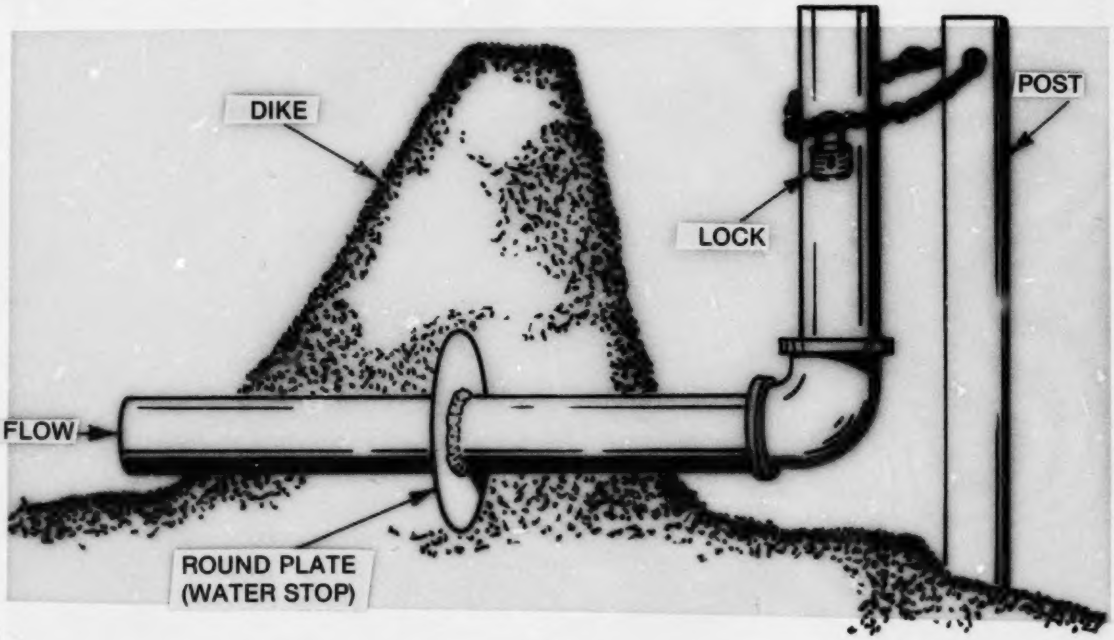
DIKE
POST
LOCK
FLOW
ROUND PLATE (WATER STOP)

Figure B-8. "Swing pipe" drain (in closed position).

3/8''

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are small compared with the stock tanks, and are easier to inspect and maintain than flowlines. It is possible to establish an effective monitoring and failure prevention program and contingency plan that can provide a reasonable degree of spill prevention for the separators and heater/treaters which sometimes cannot, practically, be afforded secondary containment. Contingency plans should only be used in those situations where it is impractical to build secondary containment for a facility.

Onshore Drilling/Workover Facilities

Secondary containment shall be installed around the appropriate area of each rig to prevent oil (crude, oily drilling fluids, fuels) from reaching navigable water. Since most drilling rigs use diesel fuel or gasoline as an energy source for the prime mover, the volume of the secondary containment must be at least large enough to contain the fuel tank(s) plus rainwater. If drain valves are used, they shall normally be locked closed as indicated previously.

A blowout prevention (BOP) assembly shall be used that is capable of withstanding the full pressure that the well can develop. Most oil-producing states have requirements for installation of BOP stacks.

OFFSHORE OIL/GAS PRODUCTION AND DRILLING/WORKOVER FACILITIES

Offshore Production Facility

A typical offshore oil production facility is shown in Figure B-9, and consists of the following basic equipment: wellhead, flowlines, risers, manifolds, storage tanks, separators, heater/treaters, and an oil collection system. Applicable parts of 40CFR Part 112 are discussed in the following paragraphs.

Facility Drainage--

Normally, for an offshore facility it is not practical to have secondary containment that is of sufficient volume to contain "the largest single tank." Therefore, other measures need to be employed that will reduce the risk of oil pollution to a minimum practicable level.

One of the most important spill prevention measures that must be utilized is a collection system for drips, leaks, and spillage of oil on offshore platforms. The collection system can be a combination of individual drip pans and diversionary structures or impervious decking and drains that route the oil to a tank or a sump. In all these cases it is imperative that procedures and equipment be provided for removing the collected oil on a regular basis. Small-volume drip pans with no drain/sump are somewhat impractical if they are exposed to rain, since they will overflow and would require almost continual inspection.

A commonly used system that has proved effective is shown in Figure B-10 and consists of curbed and impervious platform structures that collect oil and water, and divert these fluids to drains through which they flow under gravity to a large sump or caisson that allows collection and treatment. Oil

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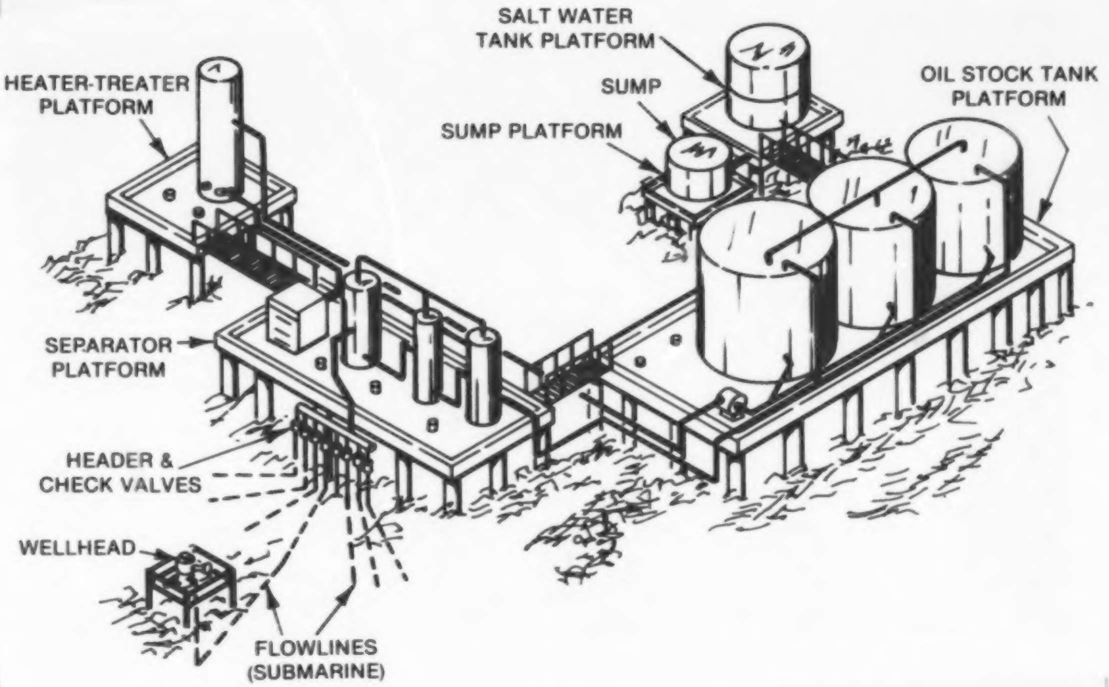
SALT WATER TANK PLATFORM
HEATER-TREATER PLATFORM
SUMP
OIL STOCK TANK PLATFORM
SUMP PLATFORM
SEPARATOR PLATFORM
HEADER & CHECK VALVES
WELLHEAD
FLOWLINES (SUBMARINE)

Figure B-9. Offshore production facility.

which is collected is either pumped back into the system or disposed of properly.

It is imperative that the collection system be leakproof, i.e., the platform must be impermeable, the drain pipes must be sound, etc.

Sump System--

The sump system should be of sufficient volume to contain any anticipated leaks and spills. This can be based on past experience and on the history of the facility in question.

An automatic sump pump should be used to remove any collected oil or rainwater and a backup system should be available in the event that the primary system becomes inoperative.

In general, all sumps require regular inspection. Typically, the maximum inspection interval should be one day.

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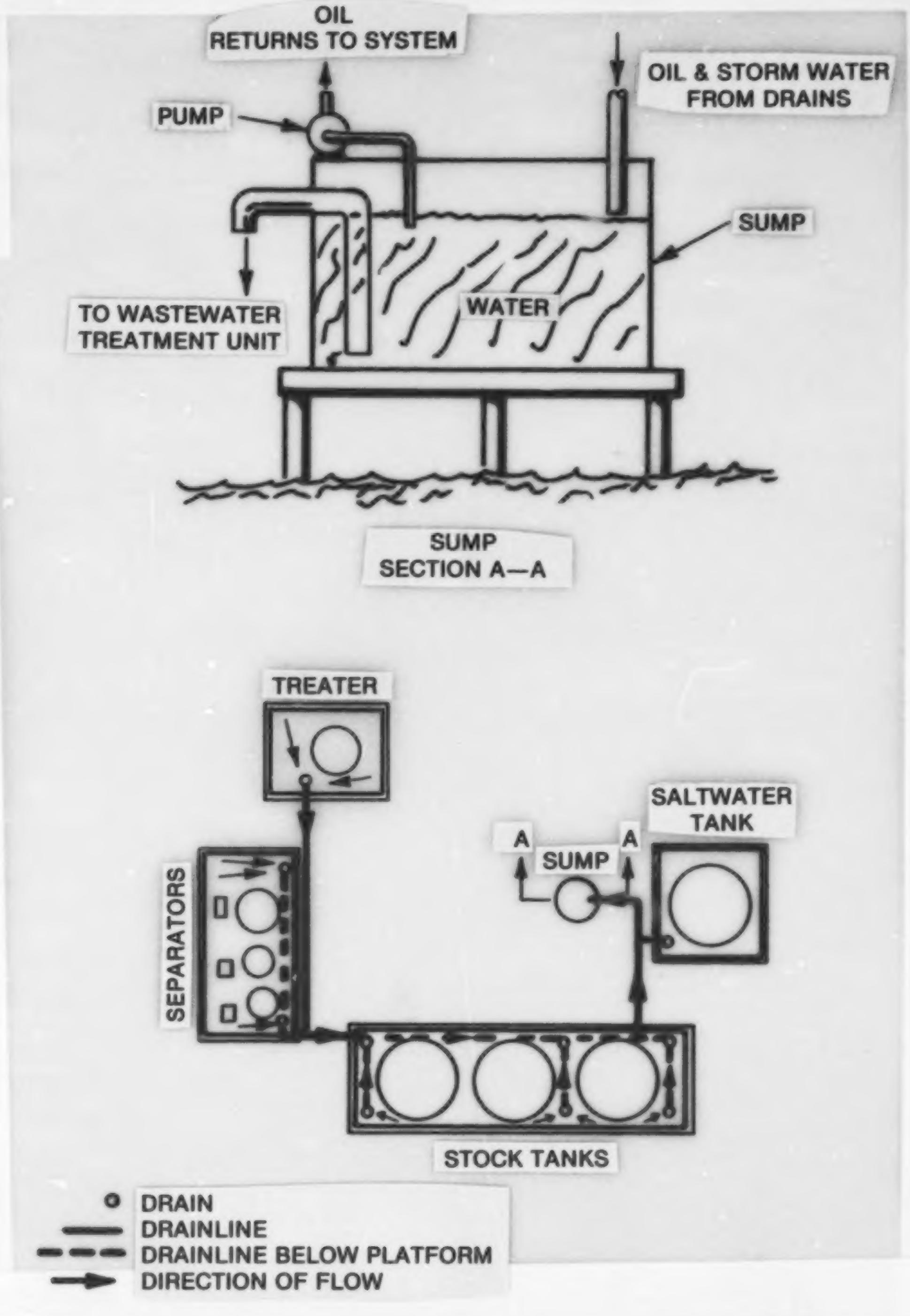
OIL
RETURNS TO SYSTEM
OIL & STORM WATER
FROM DRAINS
PUMP
SUMP
TO WASTEWATER
TREATMENT UNIT
WATER
SUMP
SECTION A—A
TREATER
SALTWATER
TANK
A
SUMP
A
SEPARATORS
STOCK TANKS
DRAIN
DRAINLINE
DRAINLINE BELOW PLATFORM
DIRECTION OF FLOW

Figure B-10. Curbed platform drain system.

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Separator and Treater Dump Valves--

It is essential that when dump valves on separators and treaters are set to close upon a failure in the system, the relief valves not be vented to the atmosphere. The effect of venting directly into air would cause oil to spray randomly in all directions, including into the water. It is recommended that if the dump valves are set to close upon failure, the pressure relief valves be vented to a surge tank or scrubber which has the structural strength and volume to adequately handle the fluid flow and pressures.

In no event should a dump valve failure cause fluids to be discharged through a flare line if the flare line does not extend to a disposal pit or other containment structure.

Tanks--

All atmospheric storage or surge tanks should be equipped with high liquid level detectors that will either activate alarms and/or control flow to the tanks. It is essential that tanks must be in good condition and not leaking or in imminent danger of leaking/failing.

All tanks should be adequately protected internally and externally from corrosion, as required to prevent leakage or spillage. Methods of controlling corrosion may include protective coatings, cathodic/anodic protection, chemical treatment of oil, etc.

Spill Prevention Equipment and Systems--

In order to maintain a relatively spill-free facility, it is vital that proper inspection and testing procedures be prepared and implemented for pollution prevention related equipment. Equipment of particular importance includes:

- Liquid level sensors
- Pressure sensors
- Sump pump systems
- Valves
- Alarms
- Corrosion prevention equipment
- Integrity of containment and diversionary structures (platform surfaces, drain line, sumps, disposal pits, etc.)

To ensure that the procedures are being followed, it is mandatory that authority for carrying out the procedures be properly delegated and that the records associated with the inspections be properly kept. It should always be assumed that if records of inspections are not being maintained, then the inspections are not being performed.

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Well Control--Systems and Equipment--

The wells should be capable of being shut in when an abnormal pressure or fluid flow condition exists. The controls to shut in the well should be fail-safe. Due to the nature of this surface/subsurface valving, it will not be practical for the inspector to much more than verify that the valves are properly connected and that the equipment is not experiencing a leak. It would be detrimental to the operator for the inspector to insist on witnessing a well shut-in, since restarting the well can be time-consuming and quite expensive.

Blowout preventor valve assemblies are devices that enable the operator to contain a well during workover or drilling operations. A diagram of a BOP assembly is shown in Figure B-11. It includes two annular rings (S and T) that can seal around the drill pipe or the "kelly" (drive shaft). It also has two ram-type valves that can seal around the drill pipe during an emergency.

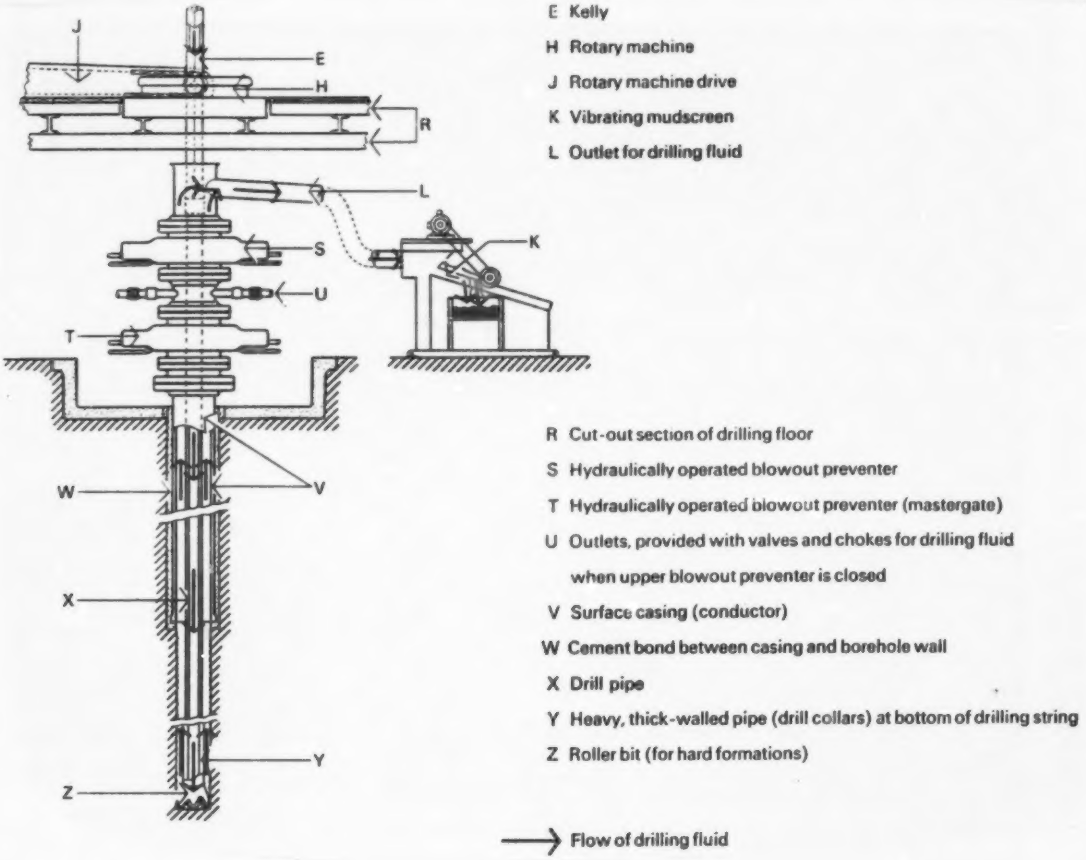
J
E
H
R
L
S
U
K
T
W
V
X
Y
Z
E Kelly
H Rotary machine
J Rotary machine drive
K Vibrating mudscreen
L Outlet for drilling fluid
R Cut-out section of drilling floor
S Hydraulically operated blowout preventer
T Hydraulically operated blowout preventer (mastergate)
U Outlets, provided with valves and chokes for drilling fluid when upper blowout preventer is closed
V Surface casing (conductor)
W Cement bond between casing and borehole wall
X Drill pipe
Y Heavy, thick-walled pipe (drill collars) at bottom of drilling string
Z Roller bit (for hard formations)
Flow of drilling fluid

Figure B-11. Blowout preventor assembly.

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A BOP assembly must always be utilized during a workover or drilling operation and must be of sufficient strength to withstand the full pressure that can be produced in the well. (This does not include wire line workovers, which may not require or utilize BOPs.)

Flowlines and Pipelines--

Flowlines are a frequent source of oil spill pollution. They are usually in water and/or silt and are therefore difficult to inspect to verify their integrity. It is usually not practical to hire divers, X-ray equipment, etc. to inspect them on a regular basis. Therefore, the producing companies will sometimes wait until the flowline begins to leak before corrective action is taken. Sometimes the "corrective action" may be a clamp that seals around the leaking area and stops the flowline from leaking for a period of time, until a new leak occurs.

The obvious disadvantages to this process are (1) oil pollution itself is utilized as the method of determining a leak, and (2) the method of repair can be classified as temporary, i.e., the flowline may be "thin" along the entire length. (It is not uncommon to see flowlines that have clamps every 4 feet.) Therefore, a flowline that has failed may be in need of replacement, especially if it has a record of repeated failures. Preventive maintenance programs can be established that will, through testing and statistical analysis, reduce the risk of oil spills from this source to a minimum.

To avoid flow from an active well to another flowline (which may be inactive and/or open) it is necessary that the individual flowlines have check valves at the header or manifold.

In the event that the well is capable of producing pressures, either naturally or with artificial lift, which are in excess of the safe working pressure of the flowline, then that flowline needs to have either a pressure sensor that will shut in the well automatically when the safe working pressure limit is reached, or a pressure relief system to a safe vent.

Offshore Drilling/Workover Rigs

As indicated previously, each oil drilling and workover rig should have its own SPCC plan. Offshore drilling rigs have many SPCC requirements that are similar to those for oil production facilities; however, there are some differences in operation and construction that are significant to the inspector.

The type of drilling rig is usually determined by the depth of water, prevailing winds, and other environmental or operational conditions. For shallow depths encountered in inland waters of protected coastal waters, barge rigs are normally used. For offshore waters, platform rigs are utilized.

Barge Rigs--

Drill barges are used in shallow water locations such as the canals, bayous, and lakes in Southern Louisiana and Mississippi, etc. The barges are towed to the location, submerged to touch bottom, and kept in place by piles driven into the bottom. Since the setup time for drilling is usually a matter

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of a few hours, barge rigs are employed whenever possible. A pictorial view of a barge rig is shown in Figure B-12. The areas of particular interest to spill prevention are illustrated in Figure B-13.

The upper level of the rig contains the derrick, rotary table, drilling operator s and controllers, draw-works, drill-pipe, living quarters, and casings. Occasionally, it will contain small quantities of diesel fuel, gasoline, solvents, lubricants, etc. As a result, the upper-level areas which contain oil materials need to be contained so that all liquids will drain in a controlled manner and not flow over the side of the barge into the water. It is common practice to weld steel plates to the edge of the deck to limit the outward flow of liquids. The inspector should verify that the curbing has the required integrity and is free of holes, pitting, cracks, and gaps. Occasionally, the crew will drill holes in the curbing to release water that may be standing in a low area. Obviously, this negates the effectiveness of the curb and is not allowable. If the operator determines that it is not in his best interests to provide curbing around the deck, he may choose to install individual collection equipment at each oil source.

The intermediate level usually provides space for the drilling fluid system, which includes the mixing hoppers, pumps, shaker, and settling pit, and storage for liquids and powders. This level does not ordinarily contain any oil products, but if it does it should be contained in a manner similar to that described previously, to eliminate the possibility of oil discharging into the water.

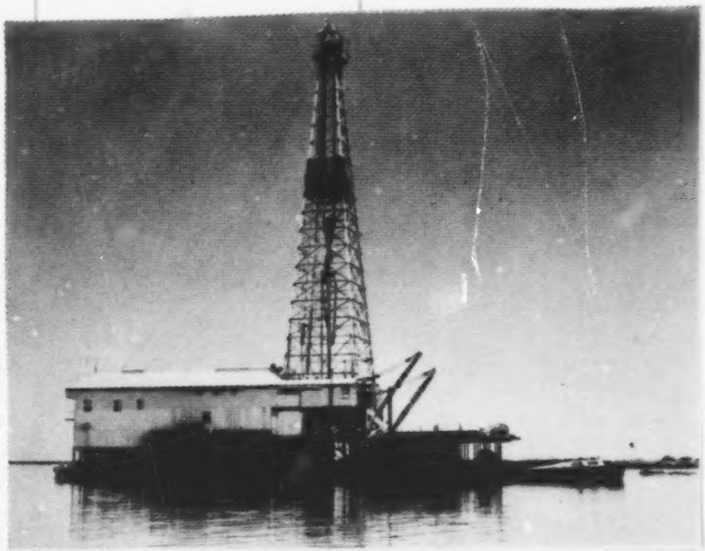

Figure B-12. Barge-mounted drilling rig.

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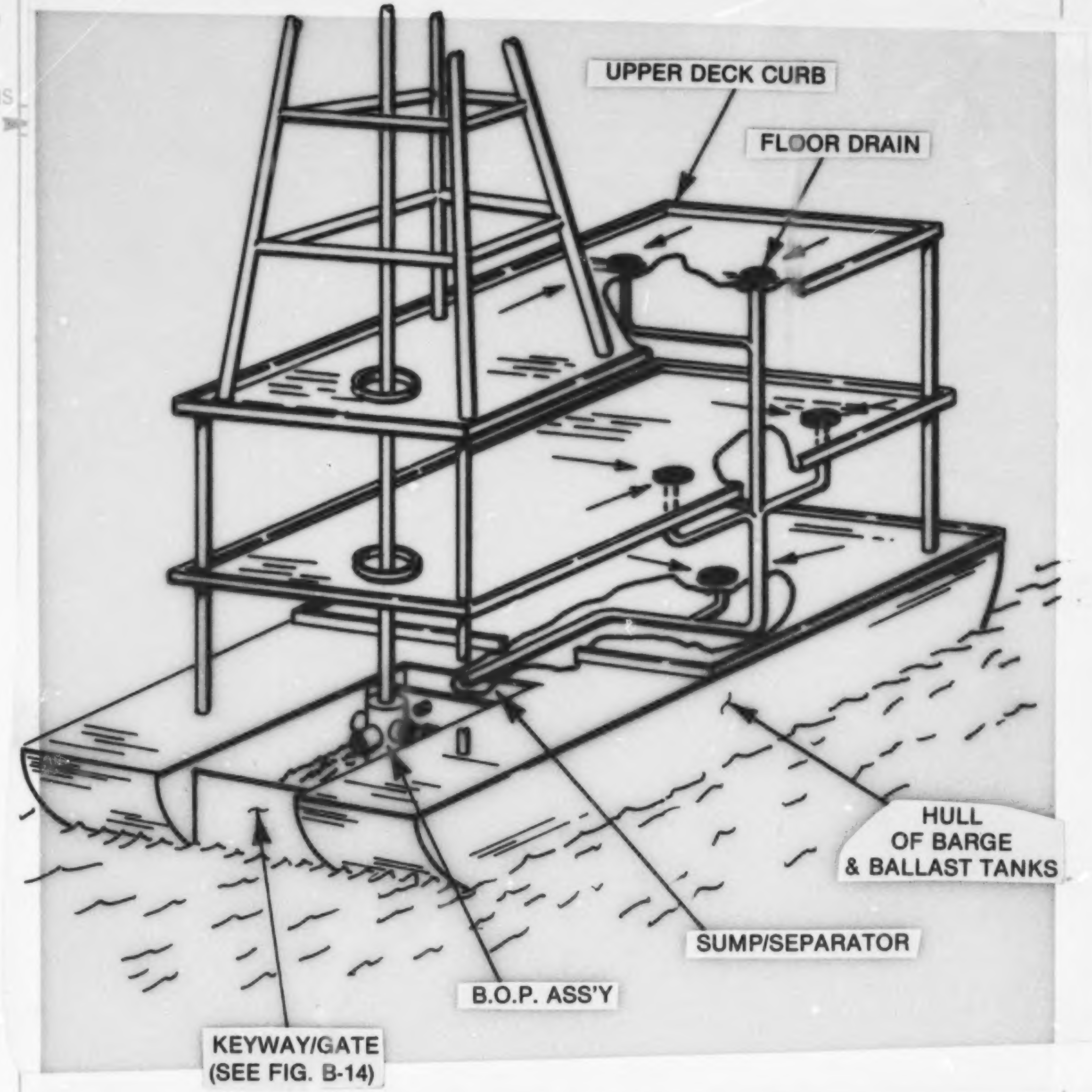
UPPER DECK CURB
FLOOR DRAIN
HULL OF BARGE & BALLAST TANKS
SUMP/SEPARATOR
B.O.P. ASS'Y
KEYWAY/GATE (SEE FIG. B-14)

Figure B-13. Barge collection/drainage system.

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The *lower level* of a barge rig is a likely place for oil spills. It is the location of the diesel engines, gear reducers, compressors, fuel tanks, and lube oil storage. The picture is further complicated by these items being located adjacent to the ballast tanks, i.e., any oil that leaks into the ballast tanks will eventually be pumped overboard when water is emptied from the ballast tanks prior to moving the barge. It is essential, then, not only that the lower platform level be contained (to prevent oil from flowing overboard), but that the deck be sealed to keep any oil accumulations from entering the ballast tanks. The inspector should verify that *only water* can enter the ballast tanks, and that the curbing has the integrity to prevent oil from flowing over the side of the barge.

The lower level of the barge also utilizes a "keyway" (Figure B-14) that is a catchall sump and is located in the hull of the barge at the wellhead. During drilling, the keyway gate and spray unit are used to prevent oil and other contaminants from dispersing into the open water. However, since the keyway gate is not used during transit, the drains leading to the keyway must be kept closed then.

A more acceptable solution is to have all the drains connect to intermediate sump tanks that have a water leg. The water leg can then empty into the keyway, regardless of whether or not the gate is in place during transit. During drilling/workover, it is important that the keyway gate fit tightly to avoid seepage of fluids from the keyway. Spray systems are also recommended to keep oil substances away from the gate. The inspector should check the plan and the rig to verify their implementation.

As indicated previously, the drilling contractor must utilize the proper well control equipment, including a blowout preventor. The BOP must be sized to handle the maximum well pressures that can be generated.

Platform Rigs--

The type of platform drilling rig in use varies with the water depth, distance from shore, and sea state. *Fixed* drilling platforms are used for the shallowest and clamest conditions. *Jackup* rigs are used for intermediate depths and severer states. *Semisubmersible* rigs are the largest in size and find application in the deepest waters furthest from shore. Each of these is briefly discussed below.

Fixed Drilling Platforms--These find use in depths up to 100 feet only, and are nearly identical to production platforms. The discussion of SPCC features of offshore production platform presented earlier in this appendix therefore will provide suitable information.

Jackup Drilling Rigs--Jackup rigs (see Figure B-15) are frequently utilized where the environment can be severe and deeper waters (to 300 feet) are encountered, e.g., off the coast of Texas, California, Louisiana, etc. As shown in Figure B-16, the typical jackup rig uses a rack (on the leg) and pinion drive system to raise and lower the rig's legs relative to the floor of the ocean. When the legs are on the bottom, jacking crews elevate the drilling floor to above the anticipated maximum wave height, e.g., 25 to 35 feet in the Gulf of Mexico.

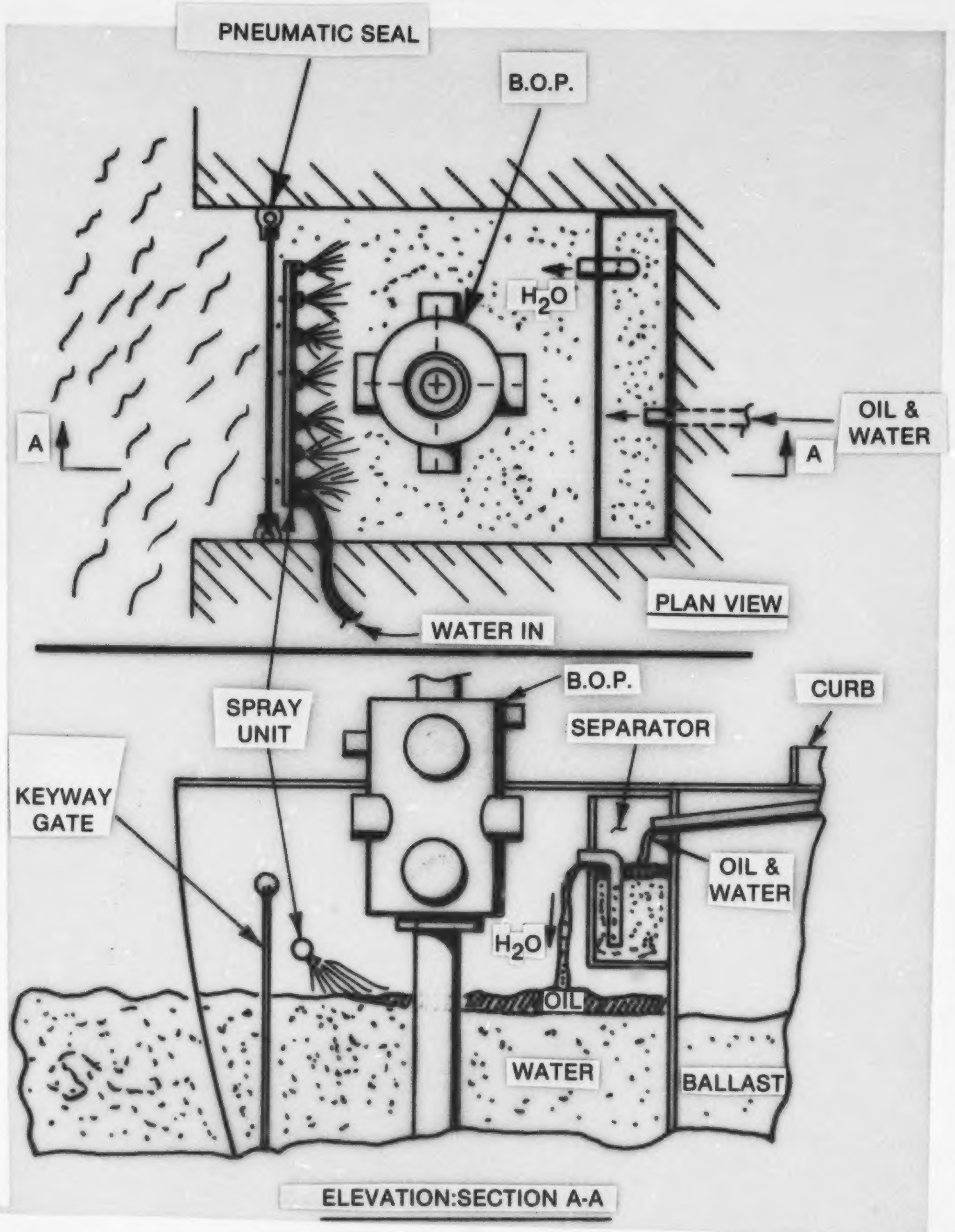
PNEUMATIC SEAL
B.O.P.
H_2O
A
OIL & WATER
A
PLAN VIEW
WATER IN
SPRAY UNIT
B.O.P.
CURB
SEPARATOR
KEYWAY GATE
OIL & WATER
H_2O
OIL
WATER
BALLAST
ELEVATION:SECTION A-A

Figure B-14. Keyway for drilling rig.

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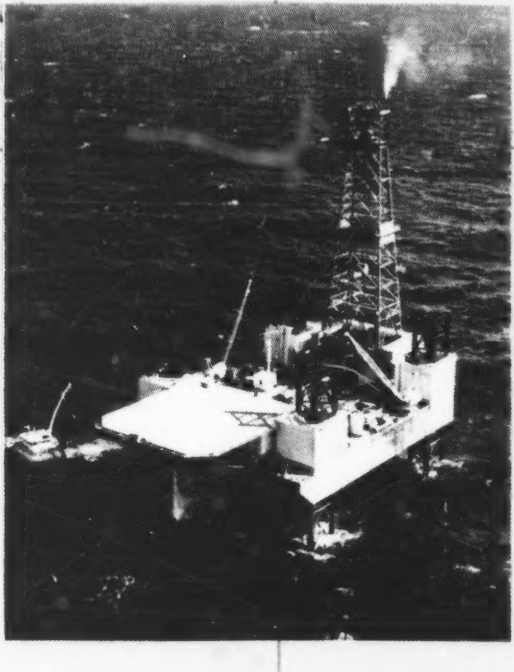

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Figure B-15. View of jackup drilling rig.

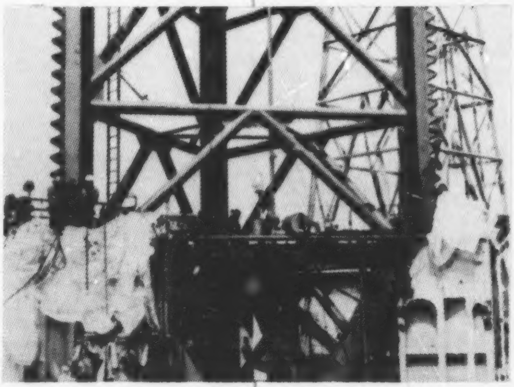

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Figure B-16. Rack and pinion drive in jackup drilling rig.

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Spill prevention measures are similar to the barge-type rig in that they must have

- A curbed drainage system
- A sump to collect all oil
- A blowout preventer
- A contingency plan

Since the jackup rig is above the water and does not utilize ballast tanks, it is easier for the inspector to determine structural integrity of curbs, presence of oil leaks and proper functioning of sump collection equipment. The inspector should check very carefully to determine that all well shut-in devices are working properly and that inspection records of these devices are being meticulously maintained.

Semisubmersible Drilling Rigs--Semisubmersible drilling rigs are quite large, expensive to build and operate, and are used in offshore drilling to water depths up to 2000 feet. A photograph of a self-propelled semisubmersible rig underway is shown in Figure B-17. When the rig reaches the drilling location, the ballast tanks are filled, thereby lowering and stabilizing the rig. Anchored guy lines keep the rig over the hole, thus achieving horizontal control. Figure B-18 shows the submarine features of a semisubmersible rig.

Spill prevention measures are nearly identical to those implemented on jackup rigs and barges, except for two areas. The blowout preventer stack is always on the ocean floor and the riser from the BOP typically includes a tensioner system, pipe slip joints, pipe ball joints, etc., to facilitate movement of the floating vessel relative to the BOP.

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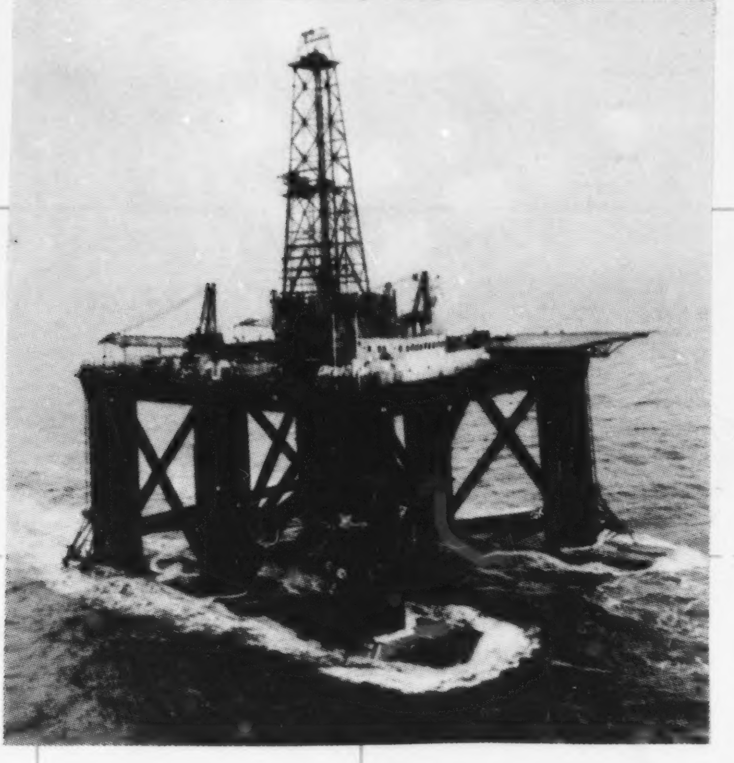

Figure B-17. View of semisubmersible drilling rig.

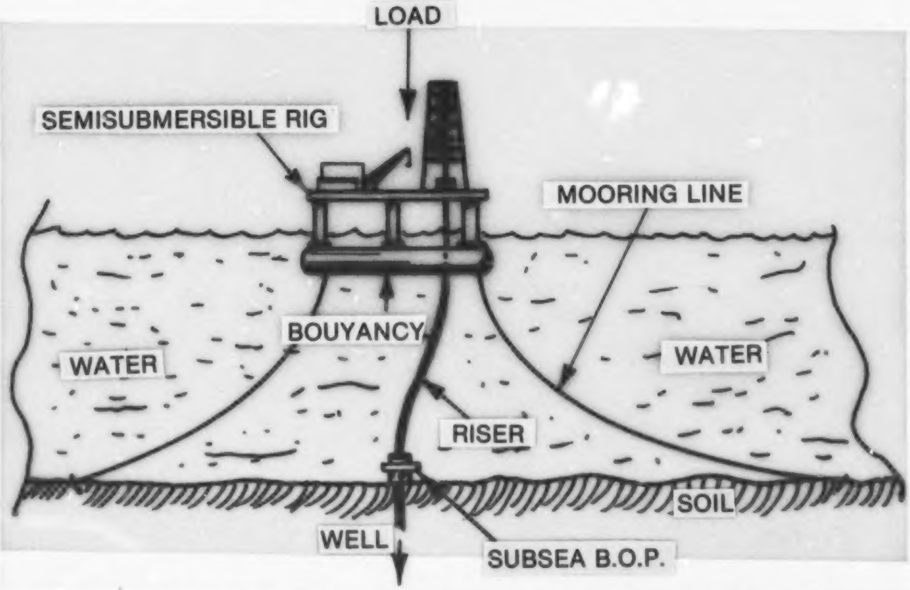
LOAD
SEMISUBMERSIBLE RIG
MOORING LINE
BOUYANCY
WATER
WATER
RISER
SOIL
WELL
SUBSEA B.O.P.

Figure B-18. Submarine features of semisubmersible rig.

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APPENDIX C

SPCC INSPECTION CHECKLIST

CONTAINMENT EQUIPMENT/STRUCTURE OR CONTINGENCY PLAN

GENERAL SPCC PREVENTION PLAN CHECKLIST

Secondary containment and/or diversionary structures are used for possible spill sources:

Source	Type of Containment or Diversionary Structure

Select from: Dikes, berms, retaining walls, curbing, culverting, gutters, drains, weirs, booms, other barriers, spill diversion, retention ponds and sorbent materials.

If the containment or diversionary structures above are impracticable, state reasons for impracticability: ____

and attach a strong oil spill contingency plan and written commitment of manpower equipment and materials required to expeditiously control and remove any harmful quantity of oil discharged. Check if attached:

Contingency Plan___ Written Commitment___

Discussion: ____

APPLICABLE EPA GUIDELINES
40 CFR PART 112.7

§ 112.7 Guidelines for the preparation and implementation of a Spill Prevention Control and Countermeasure Plan.

The complete SPCC Plan shall follow the sequence outlined below, and include a discussion of the facility's conformance with the appropriate guidelines listed:

(b) Where experience indicates a reasonable potential for equipment failure (such as tank overflow, rupture, or leakage), the plan should include a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each major type of failure.

(c) Appropriate containment and/or diversionary structures or equipment to prevent discharged oil from reaching a navigable water course should be provided. One of the following preventive systems or its equivalent should be used as a minimum:

(1) Onshore facilities.

(i) Dikes, berms or retaining walls sufficiently impervious to contain spilled oil

(ii) Curbing

(iii) Culverting, gutters or other drainage systems

(iv) Weirs, booms or other barriers

(v) Spill diversion ponds

(vi) Retention ponds

(vii) Sorbent materials

(2) Offshore facilities.

(i) Curbing, drip pans

(ii) Sumps and collection systems

(d) When it is determined that the installation of structures or equipment listed in § 112.7(c) to prevent discharged oil from reaching the navigable waters is not practicable from any onshore or offshore facility, the owner or operator should clearly demonstrate such impracticability and provide the following:

(1) A strong oil spill contingency plan following the provision of 40 CFR Part 109.

(2) A written commitment of manpower, equipment and materials required to expeditiously control and remove any harmful quantity of oil discharged.

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NONPRODUCTION - ONSHORE

40 CFR PART 112.7

A. Drainage

	YES	NO
(1) Drains from diked storage areas have valves.	___	___
(2) Drain valves are manual, open-and-close design.	___	___
(3) Rain water from diked areas is inspected before drainage.	___	___
(4) Plant drainage systems are equipped with either:		
a. Ponds, lagoons or catchment basins to retain oil or	___	___
b. A diversion system at the final discharge point which could contain an uncontrolled spill and return the oil to the plant.	___	___
(5) Flow of drainage water between treatment units is by either:		
a. Natural hydraulic flow or	___	___
b. Two "lift" pumps (one a spare and one permanently installed).	___	___

Discussion: ____

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(1) *Facility drainage (onshore); (excluding production facilities).* (1) Drainage from diked storage areas should be restrained by valves or other positive means to prevent a spill or other excessive leakage of oil into the drainage system or inplant effluent treatment system, except where plan systems are designed to handle such leakage. Diked areas may be emptied by pumps or ejectors; however, these should be manually activated and the condition of the accumulation should be examined before starting to be sure no oil will be discharged into the water.

(ii) Flapper-type drain valves should not be used to drain diked areas. Valves used for the drainage of diked areas should, as far as practical, be of manual, open-and-closed design. When plant drainage drains directly into water courses and not into wastewater treatment plants, retained storm water should be inspected as provided in paragraph (e)(2)(iii) (B, C and D) before drainage.

(iii) Plant drainage systems from undiked areas should, if possible, flow into ponds, lagoons or catchment basins, designed to retain oil or return it to the facility. Catchment basins should not be located in areas subject to periodic flooding.

(iv) If plant drainage is not engineered as above, the final discharge of all in-plant ditches should be equipped with a diversion system that could, in the event of an uncontrolled spill, return the oil to the plant.

(v) Where drainage waters are treated in more than one treatment unit, natural hydraulic flow should be used. If pump transfer is needed, two "lift" pumps should be provided, and at least one of the pumps should be permanently installed when such treatment is continuous. In any event, whatever techniques are used facility drainage systems should be adequately engineered to prevent oil from reaching navigable waters in the event of equipment failure or human error at the facility.

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B. Bulk Storage Tanks	YES	NO
(1) Tank material and construction are compatible with fluid stored.		
(2) Secondary containment volume is greater than the largest single tank capacity plus an allowance for rainwater.		
(3) Drainage of rainwater from diked areas into open waters, by-passing inplant treatment, is accomplished according to the folowing:		
a. Normally the by-pass valve is sealed closed.		
b. The rainwater is inspected to insure compliance with water quality standards.		
c. The by-pass valve is opened and resealed under responsible supervision.		
d. Records are kept of bypassing and drainage events.		
(4) Buried metallic storage tanks:		
a. New tanks are coated and wrapped to reduce corrosion.		
b. Cathodic protection is provided for tanks as necessary.		
c. Tanks are pressure tested on a scheduled, periodic basis.		
(5) Partially buried metallic tanks are avoided (for stored oil) unless adequate shell coating is provided for the buried portion.		

40 CFR PART 112.7

(2) *Bulk storage tanks (onshore); (excluding production facilities).* (i) No tank should be used for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature, etc.

(ii) All bulk storage tank installations should be constructed so that a secondary means of containment is provided for the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation. Diked areas should be sufficiently impervious to contain spilled oil. Dikes, containment curbs, and pits are commonly employed for this purpose, but they may not always be appropriate. An alternative system could consist of a complete drainage trench enclosure arranged so that a spill could terminate and be safely confined in an in-plant catchment basin or holding pond.

(iii) Drainage of rainwater from the diked area into a storm drain or an effluent discharge that empties into an open water course, lake, or pond, and bypassing the in-plant treatment system may be acceptable if:

(A) The bypass valve is normally sealed closed.

(B) Inspection of the run-off rain water ensures compliance with applicable water quality standards and will not cause a harmful discharge as defined in 40 CFR 110.

(C) The bypass valve is opened, and resealed following drainage under responsible supervision.

(D) Adequate records are kept of such events.

(iv) Buried metallic storage tanks represent a potential for undetected spills. A new buried installation should be protected from corrosion by coatings, cathodic protection or other effective methods compatible with local soil conditions. Such buried tanks should at least be subjected to regular pressure testing.

(v) Partially buried metallic tanks for the storage of oil should be avoided, unless the buried section of the shell is adequately coated, since partial burial in damp earth can cause rapid corrosion of metallic surfaces, especially at the earth/air interface.

NONPRODUCTION - ONSHORE(Continued)	YES	NO
(6) Aboveground tanks are tested by one of the following methods:		
a. Hydrostatic testing	___	___
b. Visual inspection	___	___
c. Shell thickness testing (comparison records of shell thickness reduction are maintained)	___	___
(7) Internal heating coil leakage is controlled by one or more of the following:		
a. Monitoring the steam return or exhaust lines for oil.	___	___
b. Passing the steam return or exhaust lines through a settling tank, skimmer or other separation system.	___	___
c. Installing external heating systems.	___	___
(8) All bulk storage tanks are externally inspected on a monthly basis (including seams, rivets, bolts, gaskets, nozzle connections, valves, connected pipelines and tank foundation and/or supports) for leaks or failures.	___	___
(9) Tanks are fail safe engineered by one of the following:		
a. High liquid level alarms with an audible signal at a constantly manned station.	___	___
b. High liquid level pump cutoff devices.	___	___
c. Direct communication between the tank gauger and pumping station.	___	___
d. One fast means of determining the liquid level in tanks (such as digital computers, telepulse or direct visual gauges).	___	___

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(vi) Aboveground tanks should be subject to periodic integrity testing, taking into account tank design (floating roof, etc.) and using such techniques as hydrostatic testing, visual inspection or a system of non-destructive shell thickness testing. Comparison records should be kept where appropriate, and tank supports and foundations should be included in these inspections. In addition, the outside of the tank should frequently be observed by operating personnel for signs of deterioration, leaks which might cause a spill, or accumulation of oil inside diked areas.

(vii) To control leakage through defective internal heating coils, the following factors should be considered and applied, as appropriate.

(A) The steam return or exhaust lines from internal heating coils which discharge into an open water course should be monitored for contamination or passed through a settling tank, skimmer, or other separation or retention system.

(B) The feasibility of installing an external heating system should also be considered.

(viii) New and old tank installations should, as far as practical, be fail-safe engineered or updated into a fail-safe engineered installation to avoid spills. Consideration should be given to providing one or more of the following devices:

(A) High liquid level alarms with an audible or visual signal at a constantly manned operation or surveillance station; in smaller plants an audible air vent may suffice.

(B) Considering size and complexity of the facility, high liquid level pump cutoff devices set to stop flow at a predetermined tank content level.

(C) Direct audible or code signal communication between the tank gauger and the pumping station.

(D) A fast response system for determining the liquid level of each bulk storage tank such as digital computers, telepulse, or direct vision gauges or their equivalent.

(E) Liquid level sensing devices should be regularly tested to insure proper operation.

(ix) Plant effluents which are discharged into navigable waters should have disposal facilities observed frequently enough to detect possible system upsets that could cause an oil spill event.

(x) Visible oil leaks which result in a loss of oil from tank seams, gaskets, rivets and bolts sufficiently large to cause the accumulation of oil in diked areas should be promptly corrected.

(xi) Mobile or portable oil storage tanks (onshore) should be positioned or located so as to prevent spilled oil from reaching navigable waters. A secondary means of containment, such as dikes or catchment basins, should be furnished for the largest single compartment or tank. These facilities should be located where they will not be subject to periodic flooding or washout.

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NONPRODUCTION - ONSHORE (Continued)

	YES	NO
e. Liquid level sensing devices are inspected and tested on a scheduled, periodic basis.	___	___
(10) Frequent plant effluent observations to detect upsets are made.	___	___
(11) Mobile storage tanks are properly positioned to prevent spill reaching navigable water.	___	___

Discussion:____

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Intra-Facility Transfer Operations, Pumping and Implant Process

A. Buried Pipelines

(1) Pipelines are wrapped and coated to reduce corrosion.	___	___
(2) Cathodic protection is provided for pipelines as needed.	___	___
(3) When a pipeline section is exposed, it is inspected and corrective action taken as necessary.	___	___

40 CFR PART 112.7

(3) *Facility transfer operations, pumping, and in-plant process (onshore); (excluding production facilities).* (i) Buried piping installations should have a protective wrapping and coating and should be cathodically protected if soil conditions warrant. If a section of buried line is exposed for any reason, it should be carefully examined for deterioration. If corrosion damage is found, additional examination and corrective action should be taken as indicated by the magnitude of the damage. An alternative would be the more frequent use of exposed pipe corridors or galleries.

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NONPRODUCTION - ONSHORE (Continued)

	YES	NO
B. Pipeline terminal connections are capped or blank-flanged and marked if the pipeline is not in service or on standby service for long periods.	___	___

Discussion:______________________________

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	YES	NO
C. Pipe supports are designed to minimize abrasion and corrosion and allow for expansion and contractions.	___	___

Discussion:______________________________

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	YES	NO
D. All aboveground valves and pipelines are inspected on a scheduled, periodic basis (including flange joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces.)	___	___

Discussion:______________________________

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	YES	NO
E. Vehicles entering the facility are inspected and/or warned to avoid damaging aboveground piping.	___	___

Discussion:______________________________

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40 CFR PART 112.7

(ii) When a pipeline is not in service, or in standby service for an extended time the terminal connection at the transfer point should be capped or blank-flanged, and marked as to origin.

(iii) Pipe supports should be properly designed to minimize abrasion and corrosion and allow for expansion and contraction.

(iv) All aboveground valves and pipelines should be subjected to regular examinations by operating personnel at which time the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces should be assessed. In addition, periodic pressure testing may be warranted for piping in areas where facility drainage is such that a failure might lead to a spill event.

(v) Vehicular traffic granted entry into the facility should be warned verbally or by appropriate signs to be sure that the vehicle, because of its size, will not endanger above ground piping.

Discussion (cont'd)______________________________

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	YES	NO
D. Intra-Facility Tank Car & Tank Truck Loading/Unloading		
A. Loading/unloading procedures meet the minimum requirements and regulations of the Department of Transportation.	___	___
B. The unloading area has quick drainage system.	___	___
C. The containment system will hold maximum capacity of any single tank truck loaded/unloaded in the plant.	___	___
D. An interlocked warning light or physical barrier system or warning signs are provided in the loading/unloading areas to prevent vehicular departure before disconnect of transfer lines.	___	___
E. Drains and outlets on tank trucks and tank cars are checked for leakage before loading or unloading.	___	___

Discussion:____________________________________

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(4) *Facility tank car and tank truck loading/unloading rack (onshore).* (i) Tank car and tank truck loading/unloading procedures should meet the minimum requirements and regulation established by the Department of Transportation.

(ii) Where rack area drainage does not flow into a catchment basin or treatment facility designed to handle spills, a quick drainage system should be used for tank truck loading and unloading areas. The containment system should be designed to hold at least maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded in the plant.

(iii) An interlocked warning light or physical barrier system, or warning signs, should be provided in loading/unloading areas to prevent vehicular departure before complete disconnect of flexible or fixed transfer lines.

(iv) Prior to filling and departure of any tank car or tank truck, the lowermost drain and all outlets of such vehicles should be closely examined for leakage, and if necessary, tightened, adjusted, or replaced to prevent liquid leakage while in transit.

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OIL PRODUCTION - ONSHORE

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E. Oil Production - Onshore	YES	NO
(1) Secondary containment drains are closed and locked.	___	___
(2) Ditches, sumps, traps, etc. are kept clean of oil	___	___
(3) Tanks are compatible with oil stored.	___	___
(4) Tanks & treating equipment have secondary containment.	___	___
(5) Tank batteries are failsafe.		
(a) Tanks have extra capacity.	___	___
(b) Equalizing lines are used.	___	___
(c) Vacuum eliminators are used.	___	___
(d) High level alarms are used.	___	___
(6) Piping/plumbing equipment is inspected regularly.	___	___
(7) Disposal pits are kept at sufficiently low levels.	___	___
(8) Flowline preventive maintenance program is utilized.	___	___

Discussion:______________________________

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(5) *Oil production facilities (onshore).* (i) *Definition.* An onshore production facility may include all wells, flowlines, separation equipment, storage facilities, gathering lines, and auxiliary non-transportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator.

(ii) *Oil production facility (onshore) drainage.* (A) At tank batteries and central treating stations where an accidental discharge of oil would have a reasonable possibility of reaching navigable waters, the dikes or equivalent required under § 112.7(c)(1) should have drains closed and sealed at all times except when rainwater is being drained. Prior to drainage, the diked area should be inspected as provided in paragraph (e)(2)(iii) (B), C), and (D). Accumulated oil on the rainwater should be picked up and returned to storage or disposed of in accordance with approved methods.

(B) Field drainage ditches, road ditches, and oil traps, sumps or skimmers, if such exist, should be inspected at regularly scheduled intervals for accumulation of oil that may have escaped from small leaks. Any such accumulations should be removed.

(iii) *Oil production facility (onshore) bulk storage tanks.* (A) No tank should be used for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(B) All tank battery and central treating plant installations should be provided with a secondary means of containment for the entire contents of the largest single tank if feasible, or alternate systems such as those outlined in § 112.7(c)(1). Drainage from undiked areas should be safely confined in a catchment basin or holding pond.

(C) All tanks containing oil should be visually examined by a competent person for condition and need for maintenance on a scheduled periodic basis. Such examination should include the foundation and supports of tanks that are above the surface of the ground.

(D) New and old tank battery installations should, as far as practical, be fail-safe engineered or updated into a fail-safe engineered installation to prevent spills. Consideration should be given to one or more of the following:

(*1*) Adequate tank capacity to assure that a tank will not overfill should a pumper/gauger be delayed in making his regular rounds.

(*2*) Overflow equalizing lines between tanks so that a full tank can overflow to an adjacent tank.

(*3*) Adequate vacuum protection to prevent tank collapse during a pipeline run.

(*4*) High level sensors to generate and transmit an alarm signal to the computer where facilities are a part of a computer production control system.

(iv) *Facility transfer operations, oil production facility (onshore).* (A) All above ground valves and pipelines should be examined periodically on a scheduled basis for general condition of items such as flange joints, valve glands and bodies, drip pans, pipeline supports, pumping well polish rod stuffing boxes, bleeder and gauge valves.

(B) Salt water (oil field brine) disposal facilities should be examined often, particularly following a sudden change in atmospheric temperature to detect possible system upsets that could cause an oil discharge.

(C) Production facilities should have a program of flowline maintenance to prevent spills from this source. The program should include periodic examinations, corrosion protection, flowline replacement, and adequate records, as appropriate, for the individual facility.

	YES	NO
F. Oil Drilling and Workover (Onshore)		
(1) Secondary containment is provided.	___	___
(2) Blowout preventers are utilized.	___	___

Discussion:

(6) *Oil drilling and workover facilities (onshore)* (i) Mobile drilling or workover equipment should be positioned or located so as to prevent spilled oil from reaching navigable waters.

(ii) Depending on the location, catchment basins or diversion structures may be necessary to intercept and contain spills of fuel, crude oil, or oily drilling fluids.

(iii) Before drilling below any casing string or during workover operations, a blowout prevention (BOP) assembly and well control system should be installed that is capable of controlling any well head pressure that is expected to be encountered while that BOP assembly is on the well. Casing and BOP installations should be in accordance with State regulatory agency requirements.

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OIL DRILLING/WORKOVER AND PRODUCTION - OFFSHORE

G. Oil Drilling/Workover and Production - Offshore	YES	NO
(1) Drainage/collection equipment is properly installed?	___	___
(2) Sumps are properly sized, and have a preventive maintenance program, and are kept free of oil?	___	___
(3) Sump pump/controls are redundant (when automatic)?	___	___
(4) If dump valves are set to be closed in the event of failure, are measures taken to prevent oil discharges to water?	___	___
(5) Are high level alarms utilized on storage and pressure tanks?	___	___
(6) Tanks are protected from corrosion?	___	___
(7) Inspection and testing procedures are are written and implemented?	___	___

Discussion: ____________________

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40 CFR PART 112.7

(7) *Oil drilling, production, or workover facilities (offshore).* (i) Definition: "An oil drilling, production or workover facility (offshore)" may include all drilling or workover equipment, wells, flowlines, gathering lines, platforms, and auxiliary nontransportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator.

(ii) Oil drainage collection equipment should be used to prevent and control small oil spillage around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and allied equipment. Drains on the facility should be controlled and directed toward a central collection sump or equivalent collection system sufficient to prevent discharges of oil into the navigable waters of the United States. Where drains and sumps are not practicable oil contained in collection equipment should be removed as often as necessary to prevent overflow.

(iii) For facilities employing a sump system, sump and drains should be adequately sized and a spare pump or equivalent method should be available to remove liquid from the sump and assure that oil does not escape. A regular scheduled preventive maintenance inspection and testing program should be employed to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(iv) In areas where separators and treaters are equipped with dump valves whose predominant mode of failure is in the closed position and pollution risk is high, the facility should be specially equipped to prevent the escape of oil. This could be accomplished by extending the flare line to a diked area if the separator is near shore, equipping it with a high liquid level sensor that will automatically shut-in wells producing to the separator, parallel redundant dump valves, or other feasible alternatives to prevent oil discharges.

(v) Atmospheric storage or surge tanks should be equipped with high liquid level sensing devices or other acceptable alternatives to prevent oil discharges.

(vi) Pressure tanks should be equipped with high and low pressure sensing devices to activate an alarm and/or control the flow or other acceptable alternatives to prevent oil discharges.

(vii) Tanks should be equipped with suitable corrosion protection.

(viii) A written procedure for inspecting and testing pollution prevention equipment and systems should be prepared and maintained at the facility. Such procedures should be included as part of the SPCC Plan.

		YES	NO
(8)	Testing/inspection occurs on regularly scheduled basis?	___	___
(9)	Surface/subsurface shut-in valves are properly activated by pressure or flow, etc.?	___	___
(10)	B.O.P.'s are utilized during drilling/workover?	___	___
(11)	Well surface shut-in valves have redundant or final-close valving?	___	___
(12)	Instructions have been prepared for contractors and subcontractors so that the work is performed in a safe and pollution free manner?	___	___
(13)	Manifolds have checkvalves installed on individual flowlines?	___	___
(14)	Where well pressure can be greater than the safe working pressure of the flowlines - are wells automatically shut-in when the pressure exceeds the safe limit?	___	___
(15)	Are all pipelines protected by corrosion prevention systems?	___	___

(ix) Testing and inspection of the pollution prevention equipment and systems at the facility should be conducted by the owner or operator on a scheduled periodic basis commensurate with the complexity, conditions and circumstances of the facility or other appropriate regulations.

(x) Surface and subsurface well shut-in valves and devices in use at the facility should be sufficiently described to determine method of activation or control, e.g., pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms. Detailed records for each well, while not necessarily part of the plan should be kept by the owner or operator.

(xi) Before drilling below any casing string, and during workover operations a blowout preventer (BOP) assembly and well control system should be installed that is capable of controlling any wellhead pressure that is expected to be encountered while that BOP assembly is on the well. Casing and BOP installations should be in accordance with State regulatory agency requirements.

(xii) Extraordinary well control measures should be provided should emergency conditions, including fire, loss of control and other abnormal conditions, occur. The degree of control system redundancy should vary with hazard exposure and probable consequences of failure. It is recommended that surface shut-in systems have redundant or "fail close" valving. Subsurface safety valves may not be needed in producing wells that will not flow but should be installed as required by applicable State regulations.

(xiii) In order that there will be no misunderstanding of joint and separate duties and obligations to perform work in a safe and pollution free manner, written instructions should be prepared by the owner or operator for contractors and subcontractors to follow whenever contract activities include servicing a well or systems appurtenant to a well or pressure vessel. Such instructions and procedures should be maintained at the offshore production facility. Under certain circumstances and conditions such contractor activities may require the presence at the facility of an authorized representative of the owner or operator who would intervene when necessary to prevent a spill event.

(xiv) All manifolds (headers) should be equipped with check valves on individual flowlines.

(xv) If the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves associated with that individual flowline, the flowline should be equipped with a high pressure sensing device and shutin valve at the wellhead unless provided with a pressure relief system to prevent over pressuring.

(xvi) All pipelines appurtenant to the facility should be protected from corrosion. Methods used, such as protective coatings or cathodic protection, should be discussed.

OIL DRILLING/WORKOVER AND PRODUCTION - OFFSHORE (Concluded)

40 CFR PART 112.7

	YES	NO	
(16) Are submarine pipelines protected from stresses (waves, fishing lines, etc.)?	___	___	**(xvii) Sub-marine pipelines appurtenant to the facility should be adequately protected against environmental stresses and other activities such as fishing operations.**
(17) Are submarine pipelines in good operating condition and inspected on a periodic basis for failures (if it is impractical to visually inspect - do they have a statistical prevention program?)	___	___	**(xviii) Sub-marine pipelines appurtenant to the facility should be in good operating condition at all times and inspected on a scheduled periodic basis for failures. Such inspections should be documented and maintained at the facility.**

Discussion: ____

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Inspections and Records	YES	NO
A. The required inspections follow written procedures.	___	___
B. The written procedures and a record of inspections, signed by the appropriate supervisor, are included in the SPCC plan.	___	___

Discussion: ____

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Security		
A. Plants handling or storing oil are fenced.	___	___
B. Entrance gates are locked and/or guarded when the plant is unattended or not in production.	___	___
C. Any valves which permit direct outward flow of a tank's contents are locked closed when in non-operating or non-standby status.	___	___
D. Starter controls on all oil pumps in non-operating or non-standby status are locked or electrically isolated in the "off" position.	___	___
E. The loading/unloading connections of oil pipelines are capped or blank-flanged when not in service or on standby service for extended periods.	___	___

(8) *Inspections and records.* Inspections required by this part should be in accordance with written procedures developed for the facility by the owner or operator. These written procedures and a record of the inspections, signed by the appropriate supervisor or inspector, should be made part of the SPCC Plan and maintained for a period of three years.

(9) *Security (excluding oil production facilities).* (i) All plants handling, processing, and storing oil should be fully fenced, and entrance gates should be locked and/or guarded when the plant is not in production or is unattended.

(ii) The master flow and drain valves and any other valves that will permit direct outward flow of the tank's content to the surface should be securely locked in the closed position when in non-operating or non-standby status.

(iii) The starter control on all oil pumps should be locked in the "off" position or located at a site accessible only to authorized personnel when the pumps are in a non-operating or non-standby status.

(iv) The loading/unloading connections of oil pipelines should be securely capped or blank-flanged when not in service or standby service for an extended time. This security practice should also apply to pipelines that are emptied of liquid content either by draining or by inert gas pressure.

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FACILITY OPERATION (Concluded)

F. Description of the lighting around the facility:

____

____

Discussion: ____

____

____

____

____

____

Personnel, Training and Spill Prevention Procedures	YES	NO
A. Personnel are properly instructed in the following:		
(1) Operation and maintenance of equipment to prevent oil discharges, and	___	___
(2) Applicable pollution control laws, rules and regulations.	___	___
B. Spill prevention briefings for the operating personnel are conducted on a scheduled, periodic basis.	___	___

Fully describe methods and schedules for above: ____

____

____

____

____

____

40 CFR PART 112.7

(v) Facility lighting should be commensurate with the type and location of the facility. Consideration should be given to: (A) Discovery of spills occurring during hours of darkness, both by operating personnel, if present, and by non-operating personnel (the general public, local police, etc.) and (B) prevention of spills occurring through acts of vandalism.

(10) *Personnel, training and spill prevention procedures.* (i) Owners or operators are responsible for properly instructing their personnel in the operation and maintenance of equipment to prevent the discharges of oil and applicable pollution control laws, rules and regulations.

(ii) Each applicable facility should have a designated person who is accountable for oil spill prevention and who reports to line management.

(iii) Owners or operators should schedule and conduct spill prevention briefings for their operating personnel at intervals frequent enough to assure adequate understanding of the SPCC Plan for that facility. Such briefings

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APPENDIX D

REPORT OF SPCC INSPECTION

This appendix contains all the SPCC Inspection and Documentation Report Forms to be filled out by SPCC Inspectors:

A. SPCC Inspection Field Sheet (two sides) - EPA Form 7500-53

B. SPCC Inspection Summary Sheet (one side) - EPA Form 7500-52

C. Detailed SPCC Documentation (eight sides) - EPA Form 7500-54

Instructions for A. are on its side two, while instructions for C. are on its side eight. These report forms are available at the EPA Regions.

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9-1/8"
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A. SPCC INSPECTION FIELD SHEET

(To be completed if SPCC Regulation is applicable to Facility - see 40CFR Part 112.1.)

SEE INSTRUCTIONS ON REVERSE

1a. NAME OF FACILITY

1b. TYPE OF FACILITY

1c. FACILITY LOCATION

2a. NAME OF OWNER AND/OR OPERATOR RESPONSIBILE FOR FACILITY

2b. TELEPHONE NUMBER *Area Code* ( )

2c. MAILING ADDRESS

3. TYPES OF OIL STORED AND CAPACITY OF ABOVEGROUND AND BURIED STORAGE.

4. IS A CERTIFIED SPCC PLAN AVAILABLE FOR INSPECTION? ☐ YES ☐ NO

5. DATE OF INSPECTION

6. NAME AND REGISTRATION NUMBER OF CERTIFYING ENGINEER ☐ NOT AVAILABLE

7. DATE SPCC PLAN WAS CERTIFIED ☐ NOT AVAILABLE

8. IS SPCC PLAN FULLY IMPLEMENTED? *(Are the items called for in the Plan in the interest of spill prevention actually installed - if observable?)*

☐ NOT APPLICABLE

9. NAME OF WATER BODY THAT POTENTIAL SPILL COULD ENTER; OR IF UNNAMED TRIBUTARY, THEN FIRST NAMED WATERBODY DOWNSTREAM *(if known)*

10. COMMENTS *(Include comments by owner/operator - write on back or attach extra sheets if needed)*

11a. SPCC NO.

11b. CASE NO.

11c. NPDES NO. ☐ NOT AVAILABLE

12a. INSPECTOR *(sign)*

12b. DATE

12c. INSPECTOR *(print)*

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EPA Form 7500-53 (9-80)

INSTRUCTIONS

1. Trade name of facility and its precise location, using geographical latitude and longitude if necessary.
2. If owner and operator are different persons, give information for both. State relation between them - is operator cosignee, leasee, or employee? Who is responsible for SPCC?
3. Note capacity and whether tanks are full or not. Note tanks which store alternate oils. Check lube storage - whether buried or above-ground *(latter more likely)*.
4. Note adequacy of Plan; if inadequate, state specific defects. Use 10. below for details.
5. Actual date of visit to facility.
6. Include state in which engineer is registered. If Plan was amended and the amended Plan certified by a different engineer, list information for all engineers.
7. List for original Plan and any amended Plans.
8. Summary of deficiencies in Plan implementation. Discuss this with operator and record his opinions and comments in 10. below.
9. Specify distance and direction to nearest named stream, river, lake, bayou, estuary, etc. which will receive runoff from the facility. If facility runoff goes to storm drain, ultimate receiving water should be named.
10. Space for comments by inspector and operator. Inspector should briefly list SPCC equipment actually in use at time of inspection. If facility was not in compliance, inspector should include expected dates of Plan preparation and/or implementation.
11. SPCC No. refers to national EPA Data Bank. Case No. refers to Regional EPA designation.
12. Date on which Field Sheet was actually completed.

10. COMMENTS *(continued from other side)*

EPA Form 7500-53 (9-80) REVERSE

B. SPCC INSPECTION SUMMARY SHEET

SPCC NO.

CASE NO.

DATE OF INSPECTION

NAME OF INSPECTOR *(Signature)*

DATE OF DOCUMENTATION REPORT

NAME OF INSPECTOR *(Print)*

NPDES NO.

1. FACILITY

a. COMPANY

ADDRESS

TELEPHONE

CITY

STATE

ZIP CODE

FACILITY NAME

b. FACILITY LOCATION

PARENT CORPORATION

ADDRESS

CITY

STATE

ZIP CODE

c. WATER BODY PROTECTED

2. PURPOSE

INITIATION: ☐ Routine Surveillance ☐ Coast Guard Information
☐ Spill Report ☐ Citizen Information ☐ Other *(specify)*:

TYPE: ☐ Plan Preparation ☐ Plan Implementation
☐ Follow-up ☐ Plan Amendment

3. INSPECTION

INDIVIDUAL CONTACTED

TITLE

INDIVIDUAL CONTACTED

TITLE

NOTIFICATION

4. FINDINGS

SOURCE IN APPARENT COMPLIANCE WITH SPCC REQUIREMENTS:

- ☐ Yes
  - ☐ Have adequate plan
  - ☐ Not subject to regulations
    - ☐ Insufficient storage
    - ☐ No reasonable spill expectation
  - ☐ Plan fully implemented
  - ☐ New facility operational less than 6 months
- ☐ No
  - ☐ No plan
  - ☐ Plan not properly certified
  - ☐ Plan does not have management approval
  - ☐ Plan not maintained at facility manned 8 hrs/day
  - ☐ Inadequate plan *(detailed SPCC Plan review attached)*
  - ☐ Plan not fully implemented
  - ☐ Plan not reviewed within 3 years
- ☐ Other

5. ATTACHMENTS *(None required if facility in apparent compliance)*

	NONE	ATTACHED	ALREADY ON FILE
*Detailed Observations	☐	☐	☐
*Photographs	☐	☐	☐
Slides	☐	☐	☐
Map	☐	☐	☐
*Field Drawing	☐	☐	☐
*Comments	☐	☐	☐
Telephone Conversations	☐	☐	☐
*SPCC Plan	☐	☐	☐

**(ALL REQUIRED IF FACILITY IS NOT IN APPARENT COMPLIANCE. If photos not permitted, check "None" and explain. Add "SPCC Plan" to List of Attachments when appropriate.)*

EPA Form 7500-52 (6-80)

C. DETAILED SPCC DOCUMENTATION	SEE INSTRUCTIONS ON PAGE 8
FACILITY	DATE OF INSPECTION

1. FACILITY DESCRIPTION

1a. TYPE OF BUSINESS/OPERATION

1b. FACILITY OIL STORAGE

1c. PREVENTION MEASURES PROVIDED

1d. APPEARANCE OF FACILITY *(housekeeping)*

1e. PAST SPILL HISTORY

2. RECEIVING WATER *(should a spill occur)*

2a. NAME AND/OR DESCRIPTION

☐ Perennial ☐ Intermittent

☐ Water present at time of inspection

☐ Inspector traced discharge to receiving water

☐ Inspector traced apparent drainage path to receiving water

☐ Receiving water identified by company representative

☐ Receiving water identified from topo maps

☐ Receiving water identified by other means *(specify):*

2b. PROBABLE FLOW PATH TO RECEIVING WATER

2c. CLIMATIC INFORMATION FROM OWNER/OPERATOR

3. COMMENTS

EPA Form 5700-54 (9-80)

4. SPCC PLAN REVIEW

5. SPCC AMENDMENT RECOMMENDATIONS *(Amendment Inspections only)*

6. FIELD DRAWINGS *(Attach more sheets if needed, and show north arrow or other orientation)*

FACILITY	INSPECTION DATE
INSPECTOR	

EPA Form 7500-54 (9-80)

PAGE 6 OF 8

7. PHOTOGRAPHS *(Attach more sheets if needed)*	
SUBJECT	FACILITY
PHOTOGRAPHER	WITNESSES
WITNESSES	WITNESSES
DATE/TIME/DIRECTION	CAMERA/FILM/ATTACHMENTS
SUBJECT	FACILITY
PHOTOGRAPHER	WITNESSES
WITNESSES	WITNESSES
DATE/TIME/DIRECTION	CAMERA/FILM/ATTACHMENTS

ATTACH PHOTOGRAPHS HERE

INSTRUCTIONS

Page 1: **FACILITY DESCRIPTION**

(a) Make detailed in narrative style; use extra sheets if needed.

(b) Include all storage; indicate capacity and actual amount and type of oil in each tank, including tanks not in use - aboveground or buried. Indicate percent of oil in mixed storage and annual throughput where possible. If this information is included on attached drawing or lists, state this here.

(c) Describe all types and adequacy of prevention measures - dikes, catchment areas, drainage systems, separators, tank level alarm systems, drainage pumps, etc. Describe major security measures taken - locks, guards, fencing, etc.

(d) Describe maintenance at facility. Use such terms as "neat and well-maintained", "messy and poorly maintained" etc. Describe any unsatisfactory maintenance such as oil pools, broken dikes, etc.

(e) Obtain statement about past spills at this facility; observe drain controls; look for evidence of past spills.

Page 2: **RECEIVING WATER**

(a) This should be a recognizable river, stream, lake, estuary, etc. which can be expected to contain water at least part of the year.

(b) Explicitly describe, using approx. distances in meters or kilometers *(feet or miles)*, all of the drainage paths from facility to receiving water or storm drain in (a).

(c) Add here any statements obtained about annual rainfall, runoff, flooding, etc.

Page 3: **COMMENTS**

Describe soil conditions as they relate to spill runoff and whether spills have a reasonable chance of reaching drainage channels, storm drains or waterways. Obtain statements from owner/operator which indicate whether the person is aware of 40 CFR 112.

Page 4: **SPCC PLAN REVIEW**

State whether facility has an SPCC Plan and whether it is adequate. Describe in detail any inadequacies in SPCC Plan or its implementation. Include references to pertinent paragraphs of Spill Prevention Regulations.

Page 5: **SPCC AMENDMENT RECOMMENDATIONS** *(Amendment Inspection only)*

Describe areas of past and potential oil spills and corrective actions, preventive measures and countermeasures carried out in facility. Based on your inspection, will these features of the post-spill SPCC Plan adequately minimize the possibility of recurrence? Why? If not, state recommendations for SPCC Plan amendments in detail - attach quantitative information, drawings, etc.

Page 6: **FIELD DRAWINGS** *(attach more sheets if needed and show north arrow or other orientation)*

Show: all major features with spill potential requiring spill prevention measures; all drainage features that relate to potential spills, such as catch basins, storm drains, channels, ponding areas, dikes, sumps, etc.; the appropriate distances in meters or kilometers *(feet or miles)* along drainage paths from spill potential areas to water course or water body in 2(a).

Page 7: **PHOTOGRAPHS** *(attach more sheets if needed)*

Show inadequate SPCC features, spills, poor maintenance, proximity to waterways, and so forth. Mount photographs on page 7; attach more sheets if needed.

APPENDIX E. EPA-SPCC DATA BANK FORMS

RIN 7550-151

U.S. ENVIRONMENTAL PROTECTION AGENCY
OIL AND SPECIAL MATERIALS CONTROL DIVISION

FACILITY IDENTIFICATION

(Form A)

NOTE

All non-shaded areas must contain an entry.

0. FOR CONTROL USE ONLY

A

This form is to be completed in conjunction with other Oil and Special Materials Control Division forms or singly where no SPCC number has been assigned or an SPCC number is unknown. Enter the Locator Code. It consists of the first five alphabetic characters of the Facility Name, followed by the Zip Code for the Facility Site *(for offshore facilities the Zip Code portion should be zero filled.)*

1a. LOCATOR CODE AND LOCATOR ZIP

(ALPHABETIC) (ZIP CODE)

b. START-UP DATE

MO / DAY / YR

Enter this date if it is later than 01/10/74

c. HAS THE NAME OF THE FACILITY CHANGED WITHIN THE LAST YEAR *(Yes or No)*

e. HAS THE LOCATION OF THE FACILITY CHANGED WITHIN LAST YEAR? *(Yes or No)*

2. THE FOLLOWING INFORMATION IS RELATED TO THE FACILITY:

a. NAME

b. TYPE IS ANY PART OF THE FACILITY NON-TRANSPORTATION RELATED? *(Yes or No)*

c. STATE

d. COUNTY

e. CITY

GEOGRAPHIC LOCATION

f. LATITUDE

DEG MIN SEC N

g. LONGITUDE

DEG MIN SEC W

h. SURVEY DESCRIPTION

i. TOTAL STORAGE CAPACITY OF FACILITY *(in gallons)*

3. THE FOLLOWING INFORMATION IS RELATED TO THE OWNER/OPERATOR

a. NAME

MAILING ADDRESS *(Street)*

c. CITY

d. STATE

e. ZIP

f. TELEPHONE

— —

4. THE FOLLOWING ARE DIRECTIONS TO FACILITY SITE *(Optional — 25 words or less)*

Preceding page blank

EPA Form 7500-13 (Rev. 1-77)

PREVIOUS EDITION MAY BE USED

RIN 7550-151

U.S. ENVIRONMENTAL PROTECTION AGENCY
OIL AND SPECIAL MATERIALS CONTROL DIVISION

INSPECTION/ENFORCEMENT REPORT
(Form E)

0. FOR CONTROL USE ONLY

☐☐E☐☐☐☐

1. SPCC NUMBER

☐☐☐☐☐☐ If the SPCC number is not entered, complete the Facility Identification Form.

2. DATE OF INSPECTION

☐☐/☐☐/☐☐
MO DAY YR

3. HAS AN INSPECTION/ENFORCEMENT REPORT BEEN PREVIOUSLY COMPLETED FOR THE DATE OF INSPECTION (above)?

☐ YES ☐ NO (If answer is "Yes" – complete No. 5, if applicable, then skip to No. 12.)

COMPLETE ALL APPLICABLE SECTIONS BELOW

4. a. INSPECTOR'S LAST NAME

b. INSPECTOR'S ORGANIZATION

5. SPILL I.D. *(if inspection result of spill)*

6. ESTIMATED NUMBER MAN-HOURS INVOLVED IN INSPECTION

☐☐☐☐ *(whole hours)*

7. IS FACILITY SUBJECT TO PART 112?

☐ YES ☐ NO *(If answer is "No" – complete No. 8 then stop)*

COMPLETE ALL APPLICABLE SECTIONS BELOW

8. PURPOSE OF INSPECTION

A ☐ PLAN PREPARATION ONLY B ☐ PLAN PREPARATION AND IMPLEMENTATION

9\.

A ☐ PREVIOUS VIOLATION CORRECTED B ☐ NO VIOLATION FOUND

(If 9A or B is checked – STOP HERE.)

10. VIOLATION CODE/REFERRAL *(If 10 is checked – 11. is required.)*

Violation Code (check as many as three):

Z ☐ Failure to prepare any SPCC Plan

A ☐ Failure to prepare an SPCC Plan in accordance with 112.7

B ☐ Failure to have SPCC Plan certified as required by 112.3(d)

C ☐ Failure to implement SPCC Plan

D ☐ Failure to submit information after triggering spill as required by 112.4(a)

E ☐ Failure to amend plan as required by 112.4(d)

F ☐ Failure to implement amendment as required by 112.4(e)

G ☐ Failure to amend, certify or implement after facility change as required by 112.5(a)

H ☐ Failure to review, amend, certify or implement as required by 112.5(b)

1. REFERRED TO ENFORCEMENT *(Date)*

☐☐/☐☐/☐☐
MO DAY YR

EPA Form 7500-15 (Rev. 5-77) PREVIOUS EDITION IS OBSOLETE PAGE 1 OF 2

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ENFORCEMENT INFORMATION *(Complete any/all sections below if possible)*

12. DATE NOV ISSUED *(by enforcement)* MO DAY YR	**13. FINE PROPOSED** *(by enforcement)* *(whole dollars)*	
14. DATE PRE-HEARING CONFERENCE HELD MO DAY YR	**15. DATE HEARING HELD** MO DAY YR	**16. DATE HEARING APPEALED** MO DAY YR
17. DATE FINE COLLECTED MO DAY YR	**18. ACTUAL FINE COLLECTED** *(whole dollars)*	

THIS WOULD CLOSE CASE

19. COMMENTS *(optional – 10 lines or less, of not more than 60 characters each)*

RIN 7550-151

U.S. ENVIRONMENTAL PROTECTION AGENCY
OIL AND SPECIAL MATERIALS CONTROL DIVISION

SPILL REPORT
(FORM S)

0. FOR CONTROL USE ONLY
S

1. SPILL IDENTIFICATION

a. SPILL ID NO. *(Not required. If unassigned, will be system derived.)*

b. SPCC NO. *(If the SPCC number is not entered, complete the Facility Identification Form.)*

c. NPDES NO. *(If applicable)*

RESPONSIBLE ORGANIZATION (RO)

d. RO NAME *(Actually causing spill)*

RO MAILING ADDRESS

e. STREET

f. CITY

g. STATE

h. ZIP CODE

i. TELEPHONE NO.
– –

2. LOCATION OF SPILL

a. REGION

b. STATE

c. COUNTY

d. CITY

GEOGRAPHIC LOCATION

e. LATITUDE-NORTH
DEG MIN SEC

f. LONGITUDE-WEST
DEG MIN SEC

g. SURVEY DESCRIPTION
¼ SECT ¼ SECT SECT TOWNSHIP RANGE

h. DIRECTIONS TO SPILL SITE

3. SPILL INFORMATION

a. SPILL DATE
MO DAY YR

b. SPILL TIME
HR MIN

c. REPORTING DATE
MO DAY YR

d. REPTG TIME
HR MIN

e. REPORTED BY *(Name)*

f. REPORTER'S TELEPHONE NO.
– –

g. REPORTER'S ORGANIZATION

h. GENERAL WATER BODY *(Check one)*

☐ INLAND	☐ GREAT LAKES	
☐ COASTAL		

i. SPECIFIC WATER BODY *(Check one only)*

☐ RIVER	☐ RESERVOIR	☐ OPEN WATER	☐ TERMINAL *(Dock)*	☐ INLET
☐ STREAM *(Creek)*	☐ POND	☐ BAY *(Estuary or Sound)*	☐ CHANNEL	☐ TRIBUTARY
☐ LAKE	☐ BEACH	☐ PORT *(Harbor Area)*	☐ CANAL	☐ NONE

j. WATER BODY NAME *(Reached or threatened)*

k. RIVER MILE INDEX *(If known)*

(Page 1 of 2)

EPA Form 7500-18 (Rev. 1-79) PREVIOUS EDITION IS OBSOLETE.

(Continued on reverse)

4. SPILL MATERIAL: OIL, HAZARDOUS AND OTHER *(Refer to User's Manual for four digit codes)* ☐☐ S ☐☐☐☐

	a. FOUR DIGIT CODE	b. CAS NO. OR MATERIAL NAME	c. AMT. OF SPILL	d. ESTIMATED AMOUNT REACHING WATER	e. AMT. RECOVERED	f. AMT UNIT
1						☐ GALS ☐ LBS
2						☐ GALS ☐ LBS
3						☐ GALS ☐ LBS
4						☐ GALS ☐ LBS
5						☐ GALS ☐ LBS
6						☐ GALS ☐ LBS
7						☐ GALS ☐ LBS
8						☐ GALS ☐ LBS
9						☐ GALS ☐ LBS
10						☐ GALS ☐ LBS
11						☐ GALS ☐ LBS
12						☐ GALS ☐ LBS
13						☐ GALS ☐ LBS
14						☐ GALS ☐ LBS
15						☐ GALS ☐ LBS

5. REFER TO USER'S MANUAL FOR FOUR DIGIT CODES

	(4-digit code)	(If "99" code specify)
a. SPILL SOURCE		
b. SPILL CAUSE		

c. ☐ CHECK HERE IF SPILL OCCURRED UNDERGROUND

6. REGIONAL RESPONSE TEAM *(Check one)*

a. ☐ RRT NOT ACTIVATED
b. ☐ RRT TELEPHONE ACTIVATED
c. ☐ RRT ASSEMBLED

7. EPA SPILL REQUIRING REGIONAL RESPONSE *(Check below)*

a. ☐ OSC PHYSICALLY ON SCENE
b. ☐ OSC MONITORED BY PHONE, ETC.
c. ☐ ERT ASSISTANCE
d. ☐ DAMAGE ASSESSMENT/RESTORATION
e. ☐☐☐☐ REGIONAL MAN-HOURS INVOLVED ABOVE

8. CG SPILL REQUIRING EPA SUPPORT *(Check below)*

a. ☐ RRT PARTICIPATION
b. ☐ TECHNICAL ASSISTANCE
c. ☐ DAMAGE ASSESSMENT/RESTORATION
d. ☐ USE OF DISPERSANTS
e. ☐☐☐☐ EPA MAN-HOURS INVOLVED ABOVE

9. CLEANUP ACCOMPLISHED *(Funded by)*

a. ☐ FEDERAL GOVERNMENT
b. ☐ STATE GOVERNMENT
c. ☐ RESPONSIBLE DISCHARGER
d. ☐ OTHER

10 CLEANUP COSTS *(If known)*

IN WHOLE DOLLARS ☐☐☐☐☐☐☐☐☐

11. CG FINES COLLECTED *(B5 and B6 violations)*

IN WHOLE DOLLARS ☐☐☐☐☐☐☐☐☐

12. COMMENTS *(Including removal method)*

(Page 2 of 2)

EPA Form 7500-18 (Rev. 1-79) (Reverse)

GLOSSARY

Amendment inspection: An inspection conducted under provisions of 40CFR112.4 by which EPA may require an amendment to a facility's SPCC Plan following a triggering spill.

Annulus or annular space: The space between the drill stem and the wall of the hole or casing.

Assessment: An initial monetary penalty prescribed for infractions of oil spill or spill prevention regulations.

Barrel: 42 United States gallons at 60 degrees Fahrenheit.

Bilge: Stagnant, dirty water that gathers in the rounded, lower part of a ship's hull.

Blowout: A wild and uncontrolled flow of subsurface formation fluids through an oil or gas well.

Blowout preventor (BOP): A device to control formation pressure on an oil or gas well by closing the annulus when pipe is suspended in the well or by closing the top of the casing at other times.

Breakout tank: A tank along a pipeline utilized for intermediate storage.

Brine: Water saturated with or containing a high concentration of salt or salts; also, any strong saline solution containing such other salts as calcium chloride, zinc chloride, calcium nitrate. The term may be used to describe water produced with crude oil from a well.

Bulkhead: A wall or partition holding back earth, fire, fluids, etc.

CFR: Code of Federal Regulations.

Cantilever: A projecting beam or structure anchored at one end extending over a space, designed to bear loads.

Casing: Large steel pipe used in an oil or gas well to "seal off" or "shut out" water and prevent caving of loose gravel formations when drilling and producing. When the casings are set, drilling continues through and below the casing with a smaller bit. The overall length of this casing is called the string of casing. More than one string inside the other may be used in drilling the same well.

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Centrifuge: A device for the mechanical separation of solids from a liquid. Usually used on weighted drilling muds to recover the mud and discard solids. The centrifuge uses high-speed mechanical rotation to achieve this separation as distinguished from the cyclone-type separator in which the fluid energy alone provides the separating force.

Christmas tree: Assembly of fittings and valves at the top of the casing of an oil or gas well that controls the flow of oil or gas from the well.

Circulate: The movement of fluid in a well drilling or workover operation from the suction pit through pump, drill pipe, bit annular space in the hole and back again to the suction pit.

Closed in: A well capable of producing oil or gas, but temporarily not producing.

Compliance inspection: An inspection of a facility to determine the existence, implementation, and certification of an SPCC Plan.

Core: A sample of material taken from a well by means of a hollow drilling bit. Cores are analyzed to determine their water and oil content, porosity, permeability, etc.

Cracking: An oil refining process of breaking down hydrocarbons into lighter hydrocarbons of lower molecular weight.

Cut oil: Oil that contains water, also called wet oil.

Cut: Term used in refining to designate a component or narrow boiling range fraction of crude oil.

Dash pot: A mechanical dampening device.

De-emulsifier: Breaks up water-oil emulsion.

Dessicant: A drying agent.

Development well: An oil or gas well drilled for production from an established field or reservoir.

Disposal well: A well through which water (usually salt water) is returned to subsurface formations.

Diversionary structures: (Figures B-3 and B-6) Devices that divert flow from one area to another, such as ditches, pipes, culverts.

Drill pipe: Special pipe designed to withstand the torsion and tension loads encountered in drilling.

Drilling mud: A suspension, generally aqueous, used in rotary drilling to clean and condition the hole and to counterbalance formation pressure;

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consists of various substances in a finely divided state, among which bentonite and barite are most common.

Dump valve: A mechanically or pneumatically operated valve used on separators, treaters, and other vessels for the purpose of draining, or "dumping" a batch of oil or water.

Emulsion: Combination of water and oil.

Enforcement activity: Those actions taken by the EPA under the provisions of particular sections of the FWPCA.

Flowline: Carries oil or gas from wellhead to first stage in processing.

Free flowing well: A well which produces oil or gas without any means of artificial lift.

Freewater knockout: An oil/water separation tank at atmospheric pressure.

FWPCA: The Federal Water Pollution Control Act.

Gas lift: A means of stimulating flow in an oil well by aerating the fluid column in the well with compressed gas.

Gas-oil ratio: Number of cubic feet of gas produced with a barrel of oil.

Gathering line: A pipeline, usually of small diameter, used in gathering crude oil from the oil field to a point on a main pipeline.

Header: A section of pipe into which several sources of oil, such as well streams, are combined.

Heater-treater: A vessel used to break oil-water emulsion and separate oil and water with heat.

Knot: One nautical mile per hour, equivalent to 1.15 statute miles per hour.

Location (drill site): Place at which a well is to be or has been drilled.

Low flash crude: Crude oil with a low ignition temperature.

Manifold: A pipe with one inlet and several outlets or one outlet with several inlets used for collecting or distributing fluids.

Manway: An opening large enough for a man to enter; a manhole.

Offshore facility: A facility of any kind located in, on, or under the navigable waters of the United States, other than a vessel or public vessel.

Oil: Any form of oil (e.g., animal, vegetable, mineral) including petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes other than dredged spoil.

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Oil shale: A sedimentary rock containing solid organic matter (kerogen) that yields substantial amounts of oil when heated to high temperatures.

Oil well: A well completed for the production of crude oil from at least one oil zone or reservoir.

Onshore facility: A facility of any kind located in, on, or under any land within the United States, other than submerged land.

Permafrost: Subsoil that remains permanently frozen.

Permeability: The permeability (or perviousness) of rock is its capacity for transmitting a fluid. Degree of permeability depends upon the size and shape of the pores, the size and shape of the interconnections, and the extent of the latter. The unit of permeability is the darcy.

Pig: A device that is forced through a pipe to clean the pipe or separate materials flowing through the pipe.

Porosity: The volume of pore space expressed as a percentage of the total volume of the rock mass. The percentage or pores of interspaces forming the total bulk of the material. The absorbent capacity of the material or the volume of liquid held by the pores.

Riser: Vertical line between flowline and manifold.

Separator: A vessel used to separate oil and gas by gravity.

SPCC: Spill Prevention Control and Countermeasure (Plan).

Spill potential: The total amount of oil that may be spilled at a particular time and place.

Sump: Tank to collect fluids from drain systems.

Tank: A bolted or welded atmospheric or pressure container designed for receipt, storage, and discharge of oil or other liquid.

Tank battery: A group of tanks to which crude oil flows from producing wells.

Treater: Gravity separation equipment used to break an oil-water emulsion in an oil field.

Triggering spill: A spill of over 1000 gallons or the second of two reportable spills within 12 months at a facility subject to SPCC regulations.

USEPA: United States Environmental Protection Agency.

Vapor space: The space above the surface of a volatile liquid in a closed container.

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Violation: An infraction of provisions of Sections 311(b)(5), 311(b)(6), or ell(j)(2) of the FWPCA.

Viscosity: A measure of resistance to flow of a liquid.

Water flooding: In an oil field, water injection under pressure into the formation via injection wells to displace the oil toward the producing wells.

Well completion: In a potentially productive formation, the completion of a well in a manner to permit production of oil or gas; the walls of the hole above the producing layer (and within it if necessary) must be supported against collapse and the entry into the well of fluids from formations other than one producing layer must be prevented. A string of casing is always run and cemented, at least to the top of the producing layer, for this purpose. Some geological formations require the use of additional techniques to "complete" a well, such as casing the producing formation and perforating the casing to make entry holes, using slotted pipes, consolidating sand layers with chemical treatment, etc.

6-1/2"

Well head: Equipment used at the top of a well, including casing head, tubing head, hangers, and the Christmas tree.

Wildcat well: A well in unproved territory.

9-1/8"

Wireline: Device which removes paraffin from the flowline.

Work over: To clean out or otherwise work on a well in order to increase or restore production.

Work-over fluid: Any type of fluid used in workover operation to control a well. Drilling mud, diesel oil or salt water may be used.

"308 letter": A letter written under authority of Section 308 of the FWPCA.

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